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June 29, 2003, 20:50:19; Search time 30.0888 Seconds (without alignments) 2001.720 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /SIDS2/gcgdata/geneseq/geneseqn-embl/AA1983.DAT:*/SIDS2/gcgdata/geneseq/geneseqn-embl/AA1984.DAT:*/SIDS2/gcgdata/geneseq/geneseqn-embl/AA1985.DAT:*/SIDS2/gcgdata/geneseq/geneseqn-embl/AA1985.DAT:*/SIDS2/gcgdata/geneseq
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1 YNLICYFTNWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCNWP
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/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1994.
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.
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/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1982.
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1983.
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GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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'SIDS2/gcgdata/geneseq/geneseqp-embl.
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                         OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Perfect score:
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SUMMARIES	ID Description	AAG62541				AAG62544 Disease treatment	AAW08584		AAY42425		*************
	DB	22	22	23	22	22	18	19	20	22	6
	Length	455	476	368	377	398	466	466	466	466	, ,
	Query e Match Length DB I	83.8	83.8	66.7	55.6	55.6	52.2	52.2	52.2	52.2	6
	Score	2089.5	2089.5	1662.5	1387	1387	1301.5	1301.5	1301.5	1301.5	
	Result No.	1	7	e	4	Ŋ	9	7	۵	6	•

Claim 1; Page 97-99; 114pp; Japanese

Human chitinase pr	MO-13B clone of hu		Human chitinase.	Human chitotriosid	Human chitotriosid		Clone of the C-ter	Human chitinase tr	Human chitinase pr	Chitinase amino ac	Human chitinase an	Human 39 kDa chiti	Murine oviduct spe	Hamster oviduct sp	Bovine oviduct spe	Drosophila melanog	Gp38k protein sequ	Bovine whey protei		Amino acid sequenc	Human cartilage gp	Human cartilage gp	Amino acid sequenc	Human cartilage gl	ila mel	Manduca sexta larv	Manduca sexta gut	Drosophila melanog	Drosophila melanog	Polypeptide involv	Human digestive sy	House dust mite (D		House dust mite (D
AAW40260	AAY42426	AAE00433	ABB76292 ·	AAW31498	AAW31497		AAY42427	ABB76293	•		ABB76294	AAW08585			AAR73991	ABB58615	AAB03442	AAW26751	AAW53122	AAW53123	AAW47033	AAW47034	AAW53121	AAW35930	ABB64366	AAW01824	AAB07183	ABB58595	ABB71737	AAP81342	AAM92862	AAY52525	AAU96329	AAY52523
13	20	22	23	18	18	19	20	23	19	20	23	18	16	16	16	22	21	18	13	19	19	19	19	18	22	18	21	22	22	σ	22	21	53	21
466	466	466	466	.466	464	373	373	373	373	373	373	387	718	999	537	969	383	383	421	385	385	416	421	423	460	554	554	4498	595	321	203	536	536	555
52.0	52.0			51.9			46.1	46.1	46.0	46.0	46.0	46.0	42.2	41.8	40.5	40.4	38.6	38.4	38.4	38.0	38.0	38.0	38.0	38.0	35.3	34.6	34.6	34.1	31.4	31.1	31.0	29.3	29.3	29.3
1295.5	1295.5	1295.5	1295.5	1294.5	1279.5	1150.5	1150.5	1150.5	1148	1148	1148	1146	1051	1042.5	1010	1008	962.5	956.5	926.5	948.5	948.5	948.5	948.5	948.5	879.5	863.5	863.5	851	782	775	772.5	729.5	729.5	729.5
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

Disease treatment; infection; chronic occlusive pulmonary disease; bronchial asthma. New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease Disease treatment related protein SEQ ID NO: 1. AAG62541 standard; protein; 455 AA 15-NOV-1999; 99JP-0324467. 14-NOV-2000; 2000WO-JP08015. (TAKE) TAKEDA CHEM IND LTD. (first entry) Nakanishi A, Morita S; WPI; 2001-397791/42. WO200136633-A1. Ното варіепв. 24-AUG-2001 25-MAY-2001. AAG62541; RESULT 1 AAG62541 WPI; 2001-397791/42.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
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                                                                                                                                                                                                                             121 PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
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                                                                                                                     DB 22; Length 455;
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                                                                                                                                               42; Indels
                                                                                                                    ; Score 2089.5; DB 22; Pred. No. 1.6e-174; 40; Mismatches 42;
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                                                                                                                   Match 83.8%;
Local Similarity 81.3%;
Les 369; Conservative 40
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bronchial asthma
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Matches
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                                                                                         The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
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                          New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease
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                                                                                                                                                                                                           83.8%; Score 2089.5; DB 22
81.3%; Pred. No. 1.7e-174;
iive 40; Mismatches 42;
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Matches 369; Conservative
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used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                         New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 1387; DB 22; Length 377; 66.2%; Pred. No. 5e-113; Live 55; Mismatches 72; Indels 0
Disease treatment; infection; chronic occlusive pulmonary bronchial asthma.
                                                                                                                                                                                                                                                                                                                                                                                             Claim 18; Page 110-112; 114pp; Japanese.
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                                                                                                                                                                                                  99JP-0324467
                                                                                                                                                                                                                                   (TAKE ) TAKEDA CHEM IND LTD
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Matches 249; Conservative
                                                                                                                                                                                                                                                                     Morita
                                                                                                                                                                                                                                                                                                        WPI; 2001-397791/42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        377 AA;
                                                                                         WO200136633-A1
                                                                                                                                                                                                                                                                     Nakanishi A,
                                                                                                                                                                 14-NOV-2000;
                                                                                                                                                                                                15-NOV-1999;
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                                                                                                                            25-MAY-2001
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AAG62544
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 EAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 YKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIVGFPTYGHNFILSNPSNTGIGAPISGA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     267
                                                                                                                                                                                                                                                                                        The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (EST9). They can be used to stimulate cell growth, to regulate haematopoiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat stroke and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Parkinson's disease. The present sequence is a protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYPGSRGSPPQDKHLFTVLVQEMREAFEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQEVPYAYKANEWLGYDNIKSFSVKAQW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKONNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTLNKALGISTEGCTAPDVPSEPVTTPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SGSGNGSGSSSGGSGGFCAVRANGLYPVANNRNAFWHCVNGVTYQONCQAGLVFDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88 MVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPGSRGSPPQDKHLFTVLVKEMREAFEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EAI ESNR PRLMYTAAVAGGISNI QAGY EI PELSKYLDFIHVMTYDLHGSWEGYTGENS PL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---GSGSGGGSSGGSGGCGCADKADGLYPVADDRNAFWQCINGITYQQHCQAGLVFDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                  associated with its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66.7%; Score 1662.5; DB 23; Length 368; 80.1%; Pred. No. 3.3e-137; ive 35; Mismatches 35; Indels 3;
                                                                                                             Ren
                                                                                                                                                                                                               An isolated polynucleotide for treating diseases associate encoded polypeptide such as cancer and multiple sclerosis
                                                                                                             Zhao QA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disease treatment related protein SEQ ID NO: 18.
                                                                                                             ۵,
                                                                                                          Liu C, Zhou P, Asundi V, Zhang
Yang Y, Wehrman T, Drmanac RT;
                                                                                                                                                                                                                                                                    Claim 20; SEQ ID NO 848; 509pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAG62545 standard; protein; 377 AA.
     10-SEP-2001; 2001WO-US26015
                                        11-SEP-2000; 2000US-0659671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SCDCCNW 367
                                                                                                                                                             WPI; 2002-292408/33.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     368 AA
                                                                           (HYSE-) HYSEQ INC
                                                                                                                                                                               N-PSDB; ABN32766
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Matches 294;
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                                                                                                          Tang YT,
Xue AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148
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Query Match

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(first entry)
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                   Human 50 kDa
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 24-MAR-1997
                                                                                       Homo sapiens
                                                                                                                                                                     WO9640940-A2
                                                                                                                                                                                                          06-JUN-1996;
                                                                                                                                                                                                                              07-JUN-1995;
                                                                                                                                                                                         19-DEC-1996.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                  Peptide
                                                                                                                                        Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                           The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                             82 GLKDKNTELKTLLAIGGWKFGPAPFSAMVSTPQNRQIFIQSVIRFLRQYNFDGLNLDWQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VGFPEYGHTF1LRNPSDNG1GAPTSGDGPAGAYTRQAGFWAYYE1CTFLRSGATEVWDAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QEVPYAYKANEWLGYDN1KSFSVKAQWLKQNNFGGAM1WA1DLDDFTGSFCDQGKFPLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OEVPYAYQGNEWVGYDNVRSFKLKAQWLKDNNLGGAVVWPLDMDFSGSFCHQRHFPLTS
                                                                                                                                                                                                                                                                                                                                                                                                                      DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSONROTFITSVIKFLRQYGFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                             PGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                            Gaps
                    Disease treatment; infection; chronic occlusive pulmonary disease;
                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                         Length 398;
                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                          New proteins, peptides and DNA for treatment of bronch chronic occlusive lung disease and infectious disease
                                                                                                                                                                                                                                                                                                                                       55.6%; Score 1387; DB 22;
66.2%; Pred. No. 5.4e-113;
tive 55; Mismatches 72;
 Disease treatment related protein SEQ ID NO: 17
                                                                                                                                                                                                                                        Disclosure; Page 108-110; 114pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLNKALGISTEGCTAP 376
                                                                                                           14-NOV-2000; 2000WO-JP08015
                                                                                                                               99JP-0324467
                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 66.24
Matches 249; Conservative
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                                                                                                                                                 (TAKE ) TAKEDA CHEM IND
                                                                                                                                                                     Morita S;
                                                                                                                                                                                         WPI; 2001-397791/42
                                                                                                                                                                                                                                                                                                                      398 AA;
                             bronchial asthma
                                                                    WO200136633-A1
                                                                                                                               15-NOV-1999;
                                                                                                                                                                    Nakanishi A,
                                                                                       25-MAY-2001
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Human chitinases of 50 kDa (AAW08584) and 39 kDa (AAW08585) are stable to many proteases, active at pH 3-8 and up to 50 deg, and stable in the circulation. They are the result of alternative splicing of RNA, and can be produced on a large-scale in transformed host cells using cDNA clones (see also AAT50833-34) obtd. from a human macrophage library. The chitinases, optionally expressed from a gene therapy vector, are used to treat or prevent infection by chitin-contg. pathogens (e.g. fungi, protozoa, helminths) and more generally to degree chitin. They are also useful in controlled-release drug delivery, in cosmetics, foods and dental products, for antibody produ. and for diagnosis of diseases associated with elevated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKWNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New numan chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                            gene therapy; vaccine; diagnosis; lysosomal lipidosis;
Gaucher disease; leishmaniasis; sarcoidosis; multiple sclerosis;
X-linked adrenoleukodystrophy; drug delivery; cosmetics; food.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21;
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Chitinase; chitotriosidase; chitin; infectious disease;
                                                                                                                                                                                                                                                                                                                                       178..198
/label= Catalytic domain
                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                    /label= Sig peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 40-42; 58pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96WO-NL00225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95US-0486839
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Best Local Similarity 51.5
Matches 235; Conservative
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83

AAW08584 standard; Protein; 466 AA.

AAW08584

AAW08584

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and thus of their side effects.
                                   466 AA;
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                                     Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MO-218. Chitinases are useful for treating or preventing fundal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or calls expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents,
                                                                     303 VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL 362
                      264 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 321
                                                                                          363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGGSSGGSSGGSGFCADKADGLYP 415
                                                                                                                                                                               382 ROELSLPYLPSGTPELEVPKPGOPSEP------EHGPSPGODTFCQGKADGLYP 429
243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a novel human chitinase isolated from clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                           416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1..21
/label= signal
22..46 /label= chitinase
/note= "from clone MO-218"
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human chitinase protein from clone MO-218.
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                                                                                                                                                                                                                                                                                                                                             AAW40259 standard; Protein; 466
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                                                                                                                                                                                                                                                                                                           RESULT 7
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                                                                                                                                                                                 363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGGSSGGSSGGSGFCADKADGLYP 415
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                                                                                                                                                                                                                                                                                                 243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 LVCYFTNWAQYRQGBARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL 83
                                                                                                                                                                                                                                                                                                                                                               LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG
                                                                                             3 LICYFINWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chitin; fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; chitin binding region.
                                                    21;
           DB 19; Length 466;
      52.2%; Score 1301.5; DB 19; Length
51.5%; Pred. No. 2.1e-105;
tive 71; Mismatches 129; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MO-218 clone of human Chitinase, amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 451
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/label= Chitin binding
/note= "Chitin binding region"
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/label= Signal_peptide
22..445
/label= Mature_protein
/note= "Human Chitinase"
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Query Match
Best Local Similarity 51.5%
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98US-0039198

12-MAR-1998;

Tjoelker

Gray PW,

(ICOS-) ICOS CORP.

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This is the amino acid sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear homo polymer of beta-1,4-linked N-acetylglucosamine residues).

The sequence also includes a Chitin binding peptide region, which lacks any chitinase activity, but which can be used to target anti-fungal agentie to chitinase activity, but might calls.

Chitinase trapments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for detection and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as concidiolomycosis, histoplasmesis, paracoccidiolomycosis, curontaining parasites such as muchanically histoplasmesis, raperoccosis, chromoblastomycosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               382 ROELSLPYLPSGTPELEVPKPGQPSEP-----EHGPSPGQDTFCQGKADGLYP 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          264 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIGTL 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sporotrichosis, and dermatophytoess.
Chitin can be degraded by the enzyme chitinase. Use of whole chitinase
                                                                                                                                                                                                              fragments of human chitinase used to treat fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life- threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144 SQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLILG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTROAGFWAYYEICTFLRSGATEVWDASQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGSSGGSSGGSGTCADKADGLYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52.2%; Score.1301.5; DB 20; Length 466;
51:5%; Pred. No. 2.1e-105;
ive 71; Mismatches 129; Indels 21;
                                                                                                                                                                                                                                                                                   Example 1; Page 58-59; 83pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 51:5
Matches 235; Conservative
                                                                                                                                                                                                                                       infections in animals
                                                                                                                                                                                                              chitin-binding
                                                                                                                                         WPI; 1999-551417/46.
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Human, antifungal, chitinase, immunoglobulin, 1g; therapy; fungal infection, candidiasis, aspergillosis, coccidioidomycosis, blastomycosis, paraccoccidioidomycosis, histoplasmosis, cryptococcosis; chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytoses;
                                                                                                                                                                                                                             1..373
/note= "Region with triacetylchitotriose hydrolysing
                                                                                                                                                                                               22..466
/label= Human_mature_chitinase_protein
416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW
        430 NPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW
                                                                                                                                                                                                                    /label= Chitin_binding_domain
                                                                                               Human chitinase protein from clone pMO-218
                                                                                                                                                                                       /label= Signal_peptide
                                                                                                                                                                          Location/Qualifiers
                                                    Z
                                                   AAE00432 standard; Protein; 466
                                                                                                                                                                                                                                             activity"
                                                                                                                                             clone pMO-218
                                                                                                                                                            Homo sapiens
                                                                                 19-JUN-2001
                                                                                                                                                                                               Protein
                                                                                                                                                                                Peptide
                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                             Region
                                            AAE00432
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WO200123430-A2

28-SEP-2000; 2000WO-US26960

99US-0409918 30-SEP-1999;

(ICOS-) ICOS CORP.

Steiner Shaw KD, PW, Gray ĞN, Allison DS, Dietsch

WPI; 2001-266141/27. N-PSDB; AAD03759

62

21; Gaps

Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -

Claim 1; Page 32-33; 39pp; English.

143

242

302

product, comprising a human chithase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidisais, aspergillosis, blastomycosis, coccidioidomycosis, paracoccidioidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chithase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties.

The present sequence is human chitinase protein from clone pWO-218. Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues. present invention relates to a chitinase immunoglobulin (1g) fusion

466 AA Sequence

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us-10-004-219b-9.rag

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The present sequence is the protein sequence of human chitinase as predicted from isolated cDNA clone MO-218 (see ABL57380). It cliffers in only 1 amino acid residue from the chitinase sequence (see ABB76292) deduced from a second cDNA clone, having glycine at position 81 of the mature protein. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against pathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products, which are expected to be useful as products for treating fungal infections or for the development of such products. Human chitinase has a synergistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidiamise, aspergillosis, coccidicidomycosis, blastomycosis, paracoccidicidomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, cand/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
                                                                                Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis
                                                                                                                                                                     Claim 1; Column 27-30; 26pp; English
                    WPI; 2002-442449/47.
N-PSDB; ABL57380.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   466 AA;
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                                                                                                                                                                                                                                                                                                    264 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 321
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                                                                                                                               24 LVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL
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                                                                                                      3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
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                      Length 466;
               Ouery Match .52.2%; Score 1301.5; DB 22; Lengt
Best Local Similarity 51.5%; Pred. No. 2.1e-105;
Matches 235; Conservative 71; Mismatches 129; Indels
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/label= Signal_peptide
22..466
/label= Mature_protein
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Peptide
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RESULT 10 ABB76291

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LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG 242
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                                                                                                                                       24 LVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL 83
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                                                                                                           3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
     DB 23; Length 466;
Query Match 52.2%; Score 1301.5; DB 23; Lengt; Best Local Similarity 51.5%; Pred. No. 2.1e-105; Matches 235; Conservative 71; Mismatches 129; Indels
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14-JUN-1996;

Gray PW

us-10-004-219b-9.rag

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VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL 362
                                                                                                                                                                                                                                                                                                                  363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGSSGGSSGGSGFCADKADGLYP 415
                                                                                                                                                                                                                                                                                                                                                      382 RQELSLPYLPSGTPELEVPKPGQPSEP-----EHGPSPGQDTFCQGKADGLYP 429
                                                                                                                                                243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
                                                                                                                                                                     This is the amino acid sequence of an allelic form of the human chitisase enzyme, which is capable of degrading Chitin (a linear home polymer of beta-1.4-linked N-acetylglucosamine residues). The sequence also includes a chitin binding peptide region, which lacks any chitinase activity, but which can be used to target anti-fungal agents to chitin containing fungal cells. Chitinase fragments can be used to screen for proteins or other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel chitin-binding fragments of human chitinase used to treat fungal
                                                                LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chitin; fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; chitin binding region:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MO-13B clone of human Chitinase, amino acid sequence.
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/label= Signal_peptide
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/label= Mature_protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MO-13B. Chitinases are useful for treating or preventing fungal infection and as immunogens/for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of gencher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents, and thus of their side effects.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63 KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKWNPKLKTILLAIGGWNFSTQKFTDMVATANNRQTFVNSAIRFIRKYSFDGLDLDWEYPG
                                                                                                                                                                                                          Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    represents a novel human chitinase isolated from clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                                                                                                                                                                               22..466
/label= chitinase
/note= "from clone MO-13B"
                                                                                                                                                                     Human chitinase protein from clone MO-13B.
                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                           AAW40260 standard; Protein; 466 AA.
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                                                                                                                                                                                                                                                                                                                                                             1..21
/label= signal
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                                                                                    AAW40260;
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                                                                                                                                                                                                                                                                                                                                                                                                 Protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KORNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYBICTFLRSGATEVWDASQE 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       322 VPXIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGSSGGSSGGSGFCADKADGLYP 415
molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for detection and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungi. Fungal infection treated include candidiasis, aspergillosis, coccidioidomycosis, paracoccidioidomycosis,
                            These compounds are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiaals; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;
                                                                                                                                                                                                                                    mucormycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, and dermatophytoses. Chitin can be degraded by the enzyme chitinase. Use of whole chitinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KKWNPKLKTLLAIGGWNFSTQKFTDWVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG
                                                                                                                                                                                                                                                                                                    protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life-threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 LICYFINMAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 chitin-binding fragments of the present invention provide this need
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      52.0%; Score 1295.5; DB 20; Length 466; 51.3%; Pred. No. 7.2e-105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Pred. No. 7.2e-105; 71; Mismatches 130; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human chitinase protein from clone pMO-13B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE00433 standard; Protein; 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-JUN-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match , 52.04
Best Local Similarity 51.34
Matches 234; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                           466 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone pMO-13B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               303
                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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63 KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      product, comprising a human chicknase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidasis, aspergillosis, blastomycosis, coccidioidomycosis, paracoccidoidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastcmycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties.

Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SRGSPPODKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             83
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          present invention relates to a chitinase immunoglobulin (1g) fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 LVCYFTWWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               52.0%; Score 1295.5; DB 22; Length 466; 51.3%; Pred. No. 7.2e-105; Live 71; Mismatches 130; Indels 21;
                                                                                                                                                                                                                                                                                                                                                                                 BH;
                                                                                                                                                                  /note= "Region with triacetylchitotriose hydrolysing activity"
                                                                        /label= Signal_peptide
22..466
/label= Human_mature_chitinase_protein
                                                                                                                                                                                                                                                                                                                                                                                 Steiner
                                                                                                                          418..466
/label= Chitin_binding_domain
                                                                                                                                                                                                                                                                                                                                                                                 Shaw KD,
                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                 PW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 36-38; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                 Gray
                                                                                                                                                                                                                                                                                   28-SEP-2000; 2000WO-US26960.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 52.0
Best Local Similarity 51.3
Matches 234; Conservative
                                                                                                                                                                                                                                                                                                                                                                                 S.
                                                                                                                                                                                                                                                                                                                                                                                 Allison DS, Dietsch
                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-266141/27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    466 AA;
                                                                                                                                                                                                                                                                                                                                                  (ICOS-) ICOS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAD03760.
                                                                                                                                                                                                                     WO200123430-A2
                Homo sapiens
                                                                                                                                                                                                                                                                                                                  30-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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Human

infections or for the development of such products.

us-10-004-219b-9.rag

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362
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FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTROAGFWAYYEICTFLRSGATEVWDASOE 302
                             321
                                                                                          381
                             264 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDDQK
                                                                            363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGSSGGSSGGSCADKADGLYP
                                                                                                                                            VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGCAMIWAIDLDDFTGSFCDQGKFPLTSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence is the protein sequence of human chitinase as predicted from isolated CDNA clone MO-13B (see ABL57378). It differs in only 1 amino acid residue from the chitinase sequence (see ABB76291) deduced from a second CDNA clone, having serine at position 81 of the mature protein. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against pathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products, which are expected to be useful as products for treating fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                                                                                                                                                                                                                                     Chitinase; enzyme; human; fungicide; antifungal; infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis;
                                                                                                                                                                                                        416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1..21
/label= Signal_peptide
22..466
/label= Mature_protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               location/Qualifiers
                                                                                                                                                                                                                                                                                              ABB76292 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97US-0877599
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                                                                                                                                                                                                                                                                                                                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ABL57381.
                                                                                                                                                                                                                                                                                                                                                                                          Human chitinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pneumocystis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                           12-AUG-2002
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243
                                                           303
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gray PW;
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63 KNRNSKUKTLLAIGGWNFGTAPFTTWVSTSQNRQTFITSVIKPLRQYGFDGLDLDWEYPG 122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ROELSLPYLPSGTPELEVPKPGOPSEP-----EHGPSPGGDTFCQGKADGLYP 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KKMNPKLKTLLLAIGGWNFSTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SRGSPPODKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204 LDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLILG 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                264 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGGSSGGSGGGGGCADKADGLYP 415
                                                                                                                                                                                                                                                                                                                                                                                             24 LVCYFTNWAQYRQGBARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL 83
                                                                                                                                                                                                                                                                                                                                                                         3 LICYFINWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                                                                                                                                                                                                                                                                                                  Gaps
        chitinase has a synergistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidiasis, aspergillosis, coccidioidomycosis, plastomycosis, chromoblastomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytoses and Pneumocystis infections (all claimed). In particular, the fungal infection involves Candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chitotriosidase, tissue remodelling disorder; diagnosis; therapy; rheumatoid arthritis; atherosclerosis; human.
                                                                                                                                                                                                                                                                                     / Match 52.0%; Score 1295.5; DB 23; Length 466; Local Similarity 51.3%; Pred. No. 7.2e-105; nes 234; Conservative 71; Mismatches 130; Indels 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465
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                                                                                                                                                                                                                                                         466 AA;
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                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                  Matches
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09-OCT-1997

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84 KKWINPKLKTLLAIGGWNFXTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG 143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This protein comprises a variant of human chitotriosidase (see also AAW31497). Its amino acid sequence was deduced from the coding sequence of a full-length cDNA clone (see AAT89181). The following are claimed: (1) a nucleic acid sequence encoding chitotriosidase: (2) a method of diagnosing a tissue remodelling chitotriosidase: (2) a method of diagnosing a tissue remodelling in a host comprising carrying our nucleic acid amplification; and contract of detecting altered expression of a chitotriosidase protein in a host comprising contacting a bodily sample with an contibody. Chitotriosidase can degrade extracellular matrix substrates with a similar carbohydrate structure to chitin. It can be used to develop products which can be used in the diagnosis and treatment of tissue remodelling disorders such as rheumatoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 LICYFTWWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMONNEITTIEWNDVTLYKAFNDL
                                                                                                                                                                                                                                                                                                          New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g. rheumatoid arthritis
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                                                                                                                                                                                 Thotakura NR;
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                                                                                                                                                                                 Ni J,
                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 22-24; 34pp; English
                                                                                                                                                                                 Chopra A, Gentz R, Kirkpatrick RB,
                                                                                                   (HUMA-) HUMAN GENOME SCI INC.
(SMIK ) SMITHKLINE BEECHAM CORP.
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  97WO-US05072.
                                                   96US-0014295.
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N-PSDB; AAT89181.
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                                                   29-MAR-1996;
21-MAR-1997;
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21; Gaps

Search completed: June 29, 2003, 20:59:39 Job time : 32.0888 secs

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24 LVCYFTNWAQYRQGBARFLPKDLDPSLCTHLIYAFAGWTNHQLSTTEWNDETLYQEFNGL 83
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 52.2%; Score 1301.5; DB 2; Length Best Local Similarity 51.5%; Pred. No. 1.4e-108; Matches 235; Conservative 71; Mismatches 129; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein HYPOTHETICAL: NO
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 US-08-486-839-4
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Sequence 14,
Sequence 14,
Sequence 14,
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2493
1 YNLICYFTNWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCNWP
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/cgn2 6/ptodata/1/iaa/PCTUS COMB.pep:*
/cgn2 6/ptodata/1/iaa/PCTUS COMB.pep:*
GenCore version 5.1.6 (c) 1993 - 2003 Compugen Ltd
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US-09-131-19BA-2

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US-08-101-19BA-4

US-08-101-19BA-4

US-08-101-19BA-14

US-08-101-19BA-14

US-08-101-19BA-14

US-08-101-19BA-14

US-08-101-19BA-15

US-08-101-16

US-08-101-16

US-09-151-011-6

US-09-151-011-6

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US-09-545-814-32
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Match Length
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1295.5
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Perfect score:
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ATTLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann & Baron
STREET: 350 Jericho Turnpike
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
          US-09-292-225-15
US-09-292-225-18
US-09-292-225-31
US-09-292-225-38
US-09-292-225-38
US-07-939-501A-1
US-07-939-501A-1
US-07-939-501A-10
US-07-939-501A-12
US-07-939-501A-12
US-07-939-501A-12
US-08-045-269C-2
US-08-045-269C-2
PCT-US94-01189-2
US-08-045-269C-2
US-08-045-269C-2
US-08-045-269C-2
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APPLICATION NUMBER: US/08/486,839
FILING DATE: 07 - June - 1995
ATTORNEY AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTRATION NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 29,24-26
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Jericho
STATE: New York
COUNTRY: United States of America
ZIP: 11758
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Patent No. 5928928
GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
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Gaps

21;

Length 466;

Length 466;

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Query Match
Best Local Similarity 51.5°
Matches 235; Conservative
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                                                                                                    SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
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                                                                                                                                                                                                                                                                                                                                                                                                                                415
                                                                                                                                                                                  LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG 242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   382 RQELSLPYLPSGTPELEVPKPGQPSEP-----EHGPSPGODTFCQGKADGLYP 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Production, Its Use For Decomposing Chitin, Its Us
Therapy or Prophylaxis Against Infection Diseases.
                                                                                                                           KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG
                                                                                                                                                                                                           VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL
                                                                                                                                                                                                                                                                                                                                                                                                                             363 NKALGISTEGCTAPDV-----PSEPVTTPPGSGSGGGSSGGSGGSGFCADKADGLYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: A Human Chitinase, Its Recombinant TITLE OF INVENTION: Production, Its Use For Decomposing TITLE OF INVENTION: Therapy or Probhylaxis Against Info
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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APPLICATION NUMBER: US/09/151,011
FILING DATE: 10 - September - 1998
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: New York
COUNTRY: United States of America
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ADDRESSEE: Hoffmann & Baron, I
STREET: 6900 Jericho Turnpike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 4, Application US/09151011
Patent No. 6057142
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 42, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Morriss, Robert C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (516) 822-3582
INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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HYPOTHETICAL: 1
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                                                                                                                                          24 LVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL
                                                                                                        3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                          Gaps
                                                    21;
52.2%; Score 1301.5; DB 3; Length 51.5%; Pred. No. 1.4e-108; cive 71; Mismatches 129; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSES: Marshall, O'Toole, Geretein, Murray & Boru
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,198A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
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OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/09039198A Patent No. 6200951 GENERAL INFORMATION:
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REGISTRATION NUMBER: 33,54
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TELECOMMUNICATION INFORMATION
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TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US/08/877,599
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              TELECOMMUNICATION INFORMATION:
TELEPHONE: (516) 822-3550
TELEPHOX: (516) 822-3550
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acids
STRANDEDNESS: unknown
  REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                          Matches 235; Conservative
                                                                                                                                                                                      MOLECULE TYPE: protein HYPOTHETICAL: NO
                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                      Similarity
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Best Local
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                                                                                                                                                                            24 LVCYFINWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL
                                                                                                                                                                                                                                                  LDF1HVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL1VG
                                                                                                                                                    3 LICYFINWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                                                                                  Gaps
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                                                                            DB 4; Length 466;
                                                                                                                Indels
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COUNTRY: United States of America
COUNTRY: United States of America
COUNTRY: United States of America
COMPUTER: 11758
COMPUTER: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                        Query Match 52.2%; Score 1301.5; DB 4; Best Local Similarity 51.5%; Pred. No. 1.4e-108; Matches 235; Conservative 71; Mismatches 129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 451
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APPLICATION NUMBER: US/08/486,839
FILING DATE: 07-June-1995
ATTORNEY/AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTRATION NUMBER: 29,281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/343,623
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Patent No. 630318
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: A human chiti
TITLE OF INVENTION: in therapy or
TITLE OF INVENTION: in therapy or
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350 Jericho Turnpike
                ; MOLECULE TYPE: protein US-09-039-198A-2
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CORRESPONDENCE ADDRESS:
TOPOLOGY: linear
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CITY: Jericho
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                                                                                                                       3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
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                                                                                                                                                   24 LVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL
                                                                Gaps
                                                             21;
   DB 4; Length 466;
52.2%; Score 1301.5; DB 4; Length 51.5%; Pred. No. 1.4e-108; ive 71; Mismatches 129; Indels
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GENERAL INCORMATION:
GENERAL TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & J
STREET: 6300 Sears Tower, 233 South Wacker Drive
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
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Best Local S
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SEQ ID NO 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 264 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 321
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                   3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNBITTIEWNDVTLYKAFNDL
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                                                                                                                                                                                                                                                                                                                                                               DB 4; Length 466;
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APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ 1D NOS: 39
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                                                                                                                                                                                                                                                                                                                                                             52.2%; Score 1301.5; DB 4; 51.5%; Pred. No. 1.4e-108; tive 71; Mismatches 129;
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          PRIOR APPLICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 808/663,618
FILING DATE: 14-UN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Heien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELEFAN: 312/474-6300
TELEFAN: 312/474-6300
TELEFAN: 25-3856
INFORMATION FOR SEQ,ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acid
                                                                                                                                    27866/33994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/09267574
Patent No. 6399571
                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 51.5*
Matches 235; Conservative
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                                                                                                                                                                                                                                                                                                        , MOLECULE TYPE: protein US-08-877-599-2
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                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                      21;
                                                                                                                                                                                                      Length 466;
                                                                                                                                                                                           Query Match 52.2%; Score 1301.5; DB 4; Length Best Local Similarity 51.5%; Pred. No. 1.4e-108; Matches 235; Conservative 71; Mismatches 129; Indels
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Patent No. 6200951
GENERAL INFORMATION:
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: ADDRESSE: ADDRESSE: ADDRESSE: ADDRESSEE: AD
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STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
COMPUTER READABLE FORM:
WEDIUM TYPE: Floppy disk
COMPUTER: IB PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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APPLICATION NUMBER: US/09/039,198A
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NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
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TELECOMMUNICATION:
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CLASSIFICATION: 435
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-267-574-2
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TYPE: PRT
ORGANISM: Homo sapiens
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LENGTH: 466
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Patent No. 6372212;
GENERAL INFORMATION:
APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17;
CORRESPONDENCE ADDRESS:
ADDRESSES: Marchall, O'Toole, Gerstein, Murray & BorusTREET: 6300 Sears Tower, 233 South Wacker Drive
CITY: Chicago
STREET: 111ninois
COUNTRY: United States of America
CITY: 20606-6402
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CARRENT APPLICATION DATA:
PILING DATE:
US/08/877,599
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
                    TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
(312) 474-6300
                                                                                                                                             , MOLECULE TYPE: protein US-09-039-198A-4
                                                                                                         amino acid
TELEPHONE:
                                                                                                         TYPE: ami
TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                               Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                            52.0%; Score 1295.5; DB 4; Length 51.3%; Pred. No. 4.7e-108; Live 71; Mismatches 130; Indels
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APPLICANT: Tioelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/34407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER: OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          416 VADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 451
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                      REFERENCE/DOCKET NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELECOMMUNICATION INFORMATION:
TELEFAX: 312/474-6500
TELEFAX: 312/474-648
TELEX: 25-386
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acid
TYPE: amino acid
TYPE: amino acid
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; Sequence 4, Application US/09267574
; Patent No. 6399571
; GENERAL INFORMATION:
ATTORNEY/AGENT INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 51.3*
Matches 234; Conservative
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us-10-004-219b-9.rai

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LENGTH: 373 amino acids
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US-09-039-198A-14
                                                                 TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                  FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
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                                                                                                                                                      24 LVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMINHQLSTTEWNDETLYQEFNGL 83
                                                                                                                              3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMONNEITTIEWNDVTLYKAFNDL
                                                                                       Gaps
                                          DB 4; Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 233 South Wacker Drive/6300 Sears Tower
                                      52.0%; Score 1295.5; DB 4; Length
51.3%; Pred. No. 4.7e-108;
tive 71; Mismatches 130; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 14, Application US/09039198A
Patent No. 6200951
GENERAL INFORMATION:
APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,198A
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CITY: Chicago
STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 27
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 474-630
TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                   Matches 234; Conservative
                                                            Similarity
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US-09-267-574-4
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123 SQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQN 182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63 KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGWQNNEITTIEWNDVTLYKAFNDL
                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                      DB 4; Length 373;
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| Sequence 14, Application US/08877599
| Sequence 14, Application US/08877599|
| Patent No. 6372212
| TINFORMATION:
| APPLICANT: Gray, Patrick W. |
| TITLE OF INVENTION: Chitinase Materials and Methods |
| NUMBER OF SEQUENCES: 17 |
| CORRESPONDENCES: 17 |
| APPLICANT: Gray |
| STREET: 6300 Sears Tower, 233 South Wacker Drive |
| STREET: Grago |
| STATE: Illinois |
| COUNTRY: United States of America |
| STATE: Illinois |
| COUNTRY: United States of America |
| STREET: Good-6402 |
| S
                                                                                                                                                                                                                                                                                                                                                                                                          99; Indels
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPREATUR: SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                           Pred. No. 3.6e-95
                                                                                                                                                                                                                                                                                                 46.1%; Score 1150.5; 54.2%; Pred. No. 3.6e
                                                                                                                                                                                                                                                                                                                                                                                                          65; Mismatches
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REFERENCE/DOCKET NUMBER: 27866/33994
TELECOMMINICATION:
TELEPHONE: 312/474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-JUN-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363 NKALGISTEGCTAPDVPS 380
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                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 54.2
Matches 205; Conservative
                                                    single
                                                                                                                                              MOLECULE TYPE: peptide
TYPE: amino acid
STRANDEDNESS: sir
                                                                                                         linear
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CLASSIFICATION:
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243 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 300
                                                                                                              FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
                                                                                                                                                                                                                                                                                                                                                     VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTL 362
                                                                                                                                                                                                                                                                                                                                                                       63 KNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 122
                             KKWNPKLKTILLAIGGWNFGTOKFTDWVATANNROTFVNSAIRFLRKKSFDGLDLDWEYPG 122
                                                                                     SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
                                                                                                                                                                         LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 LVCYPTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMINHQLSTTEWNDETLYQEFNGL 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
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233 South Wacker Drive/6300 Sears Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46.0%; Score 1148; DB 4; Length 3
55.2%; Pred. No. 6e-95;
iive 64; Mismatches 98; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: 11110018
COUNTRY: United States of America
ZIP: 60606-4402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,198A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/34391
TELECOMUNICATION INFORMATION:
TELEPRONE: (312) 474-6300
TELEPRONE: (312) 474-6448
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-039-198A-15; Sequence 15, Application US/09039198A; Sequence 15, Application US/09039198A; Patent No. 6200951; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                         NKALGISTEGCTAPDVPS 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 RQELSL-----PYLPS 371
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    373 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: (NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
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STREET: 22.
TTV: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-039-198A-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243 FPEYGHTFILKNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLKSGATEVWDASQE 302
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                                                                                                                                                                                                                                                                                      Gaps
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                                                                                                                                                                                                                                           DB 4; Length 373;
                                                                                                                                                                                                                                                                                   99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
BARLIER APPLICATION NUMBER: 09/039,198
BARLIER PILING DATE: 1998-03-12
NUMBER OF SEO ID NOS: 39
                                                                                                                                                                                                                                      Query Match
Best Local Similarity 54.2%; Pred. No. 3.6e-95
Matches 205; Conservative 65; Mismatches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 14, Application US/09267574
Patent No. 6399571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           363 NKALGISTEGCTAPDVPS 380
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                                                                                        373 amino acids
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Best Local Similarity 54.2
Matches 205; Conservative
                        TELEX: 25-3856
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
  312/474-0448
                                                                                                          TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-877-599-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Homo sapiens
US-09-267-574-14
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  TELEFAX:
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183 LDFVNIMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLILG 242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KNRNSKLKTLLAIGGWNFGTAPFITWVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 122
                                                                                                                                                                                                                              SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
                                                                                                                                                                                                                                                         243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYBICTFLRSGATEVWDASQE 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFFTGSFCDQGKFPLTSTL 362
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63 KKWNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKY 182
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                                                  62
3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
                                                                                                                                                                                                                                                                                                                                               LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG
                                3 LICYPTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFNDL
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APPLICANT: GTAY, PACTICK W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: PACENTIN VET. 2.0
SEQ ID NO 15
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363 NKALGI 368 : | : 361 RQELSL 366

Search completed: June 29, 2003, 21:03:28 Job time : 13.7012 secs

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                                                                                                           June 29, 2003, 21:01:56; Search time 17.3846 Seconds (without alignments) 2850.818 Million cell updates/sec
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Sequence 14, Sequence 1, A
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Sequence 13,
Sequence 23,
Sequence 2,
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Sequence 1
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2493
1 YNLICYFTNWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCNWP
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/cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:/cgn2_6/ptodata/1/pubpaa/US0_NEW_PUB.pep:/cgn2_6/ptodata/1/pubpaa/US0_NEW_PUB.pep:/cgn2_6/ptodata/1/pubpaa/US0_PUBCOMB.pep:
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
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US-10-004-219B-14
US-10-004-219B-14
US-10-004-219B-10
US-10-004-219B-10
US-10-097-340-45
US-10-21B-743-11
US-10-21B-743-11
US-10-21B-743-11
US-10-21B-743-11
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US-09-74B-3
US-09-74B-3
US-10-21B-743-41
US-09-74B-3
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/ptodata/1/pubpaa/PCT_N
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Match Length
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Perfect score:
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Sequence 106, App	US-10-066-500-106	σ	440	3.6	90.5	45
	US-09-809-517A-26	2	434	3.6	90.5	44
Sequence 23, Appl	US-09-809-517A-23	2	434	3.6	90.5	43
Ä	US-09-428-371-3	σ	2105	3.7	91	42
Sequence 259, App	US-10-123-155-259	σ	2024	3.7	91	41
Sequence 85, Appl	US-10-071-485-85	თ	541	3.7	91.5	40
	US-10-159-487-2	თ	465	3.7	91.5	39
. Sequence 92, Appl	US-09-888-615-92	20	425	3.7	91.5	38
Seguence 4450, Ap	US-09-738-626-4450	თ	540	3.8	94.5	37
Sequence 4, Appli	US-09-833-435A-4	10	176	3.8	95	36
Sequence 4, Appli	US-10-047-539-4	σ	668	3.8	95	35
Sequence 2, Appli	US-09-862-260A-2	10	661	3.8	95	34
Sequence 2, Appli	US-09-812-238B-2	σ	199	3.8	95	33
Sequence 10, Appl	US-10-304-928-10	σ	309	3.8	95	32
Sequence 391, App	US-10-184-634-391	σ	1157	3.8	95.5	31
Sequence 391, App	US-10-184-644-391	σ	1157	3.8	95.5	30
Sequence 18, Appl	US-09-945-258-18	2	695	3.8	95.5	29
Sequence 100, App	US-10-050-704-100	σ	386	3.8	95.5	28
Seguence 12, Appl	US-10-007-521-12	σ	299	3.8	95.5	27
Sequence 10, Appl	US-09-924-099-10	ដ	243	3.9	96	26
σ	US-09-924-099-9	2	237	3.9	96	25
Sequence 9, Appli	US-10-080-505-9	σ	1434	3.9	96.5	24
Sequence 301, App	US-10-184-634-301	σ	1871	3.9	97.5	23
Sequence 301, App	US-10-184-644-301	σ	1871	3.9	97.5	22
Sequence 4763, Ap	US-09-738-626-4763	6	466	4.0	98.5	21
Seguence 1, Appli	US-10-055-430-1	12	400	4.0	100.5	20

ALIGNMENTS

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con US/10004219B 30087414A1 con US/10004219B cohannes M.F.G. A mammalian mucinase, its recombinant its use in therapy or prophylaxis aga which mucus is involved or infection NUMBER: US/10/004,219B 2001-11-02 3: 14 fer. 2.1 llus //note="Mouse AMCase"	Score 2493; DB 9; Pred. No. 2.5e-205 0; Mismatches 0;	DDINE	APFT7	EAFEC EAFEC
tion US/10004219 030087414A1 ne Johannes M.F.G. 001f G. 001f G	ö	GSFKF GSFKF	WNFG1	VKEMB
US/100042 087414A1 annes M.F. G. G. Hich mucus 13602 MBER: US/1 2001-11-02 14 . 2.1	100.0%; 100.0%; ive	YRPGL YRPGL	LAIGG	LFTVL
1100 10	vat	INWAQ IIII	GKT.	900XH
-219B-9 -219B-9 tion No. US20030087414A1 LINFORMATION: ANT: Macrozyme ANT: Aerts, Johannes M.F.G. ANT: Aerts, Johannes M.F.G. ANT: Book, Rolf G. OF INVENTION: its use in the OF INVENTION: which mucus is EFERENCE. 2183-5136US TY APPLICATION NUMBER: US/10/0 TY FILING DATE: 2001-11-02 OF SEQ ID NOS: 14 RE: Patentin Ver. 2.1 NO 9 H: 452 H: 452 H: 452 ISM: Mus musculus RR: ISM: Mus musculus RR: ISM: Mus musculus RR: INVEN: SITE ION: (1)(452)	ch l Similarity 100 452; Conservative	I CYF	OVRNSI OVRNSI	SRGSP1
9B-9 1 App No. 1 App No. 2 App No.	h Տimi 52;		61 DLF	
ULT 1 10-004-219B-9 equence 9, Application US/10004219B equence 9, Application Ws/10004219B ublication No. US20030087414A1 APPLICANT: Macrozyme APPLICANT: Macrozyme APPLICANT: Boot. Rolf 6. TITLE OF INVENTION: A mammalan mucinase, TITLE OF INVENTION: hits use in therapy or TITLE OF INVENTION: which mucus is involv TITLE OF INVENTION: WhERE: US/10/004,219B CURRENT APPLICATION NUMBER: US/10/004,219B CURRENT FILING DATE: 2001-11-02 NUMBER OF SEQ ID NOS: 14 ELGITH: 452 TYPE: PRT ORGANISM: Mus musculus FRATURE: NAME/KEY: SITE LOCATION: (1)(452) OTHER INFORMATION: /note="Mouse AMCase" 10-004-219B-9	Matc Local es 4		9 9	121
WESULT 1 US-10-004-219B-9 Sequence 9, Application US/1000 Publication No. US20030087414A1 GENERAL INFORMATION: APPLICANT: Macrozyme APPLICANT: Macrozyme APPLICANT: Mocrozyme APPLICANT: Mocrozyme TITLE OF INVENTION: its use i TITLE OF INVENTION: which muc TITLE OF INVENTION: which muc FILE REFERENCE: 2183-519US CURRENT APPLICATION NUMBER: US FILE REFERENCE: 201-11- NUMBER OF SEQ'ID NOS: 14 SOFTWARE: Patentin Ver: 2:1 LENGTH: 452 TYPE: PRT ORGANISM: MUB musculus FRATURE: NAME/KEY: SITE LOCATION: (1)(452) OTHER INFORMATION: /note="Mou	Query Match Best Local Similarity Matches 452; Conser			
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NAFWQCINGITYQQHCQAGLVFDTSCNCCNWP
                                                        421 NAFWOCINGITYQQHCQAGLVFDTSCNCCNWP
                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
NAME/KEY: SITE
LOCATION: (1) . (455)
OTHER INFORMATION: /note="Human AMCase"
US-10-004-219B-14
                                                                                                                                                          Sequence 14, Application US/10004219B
Publication No. US20030087414A1
GENERAL INFORMATION:
APPLICANT: Macrozyme
                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT: Macrozyme
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: wich mucus is involved or infection diseases in
TITLE OF INVENTION: with mucus is involved or infection diseases
TITLE OF INVENTION: WHEN WHEN: US/10/004,219B
CURRENT FILING DATE: 201-11-02
CURRENT FILING DATE: 201-11-02
SOFTWARE: PATCHIN VOR: 2.1
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                                                      QEVPYAYKANEWLGYDNI KSFSVKAQWLKQNNFGGAMI WA I DLDDFTGSFCDQGKFPLTS
                                                                                                                                                             TLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGSSGGSSGGSGGCADKADGLYPVADDR
                                                                                                                                                                           TINKALGISTEGCTAPDVPSEPVTTPPGSGGGGSGGGSGGGGGGCADKADGLYPVADDR
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                                         VGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDAS
                                                                                                    QEVPYAYKANEWLGYDN1KSFSVKAQWLKQNNFGGAM1WA1DLDDFTGSFCDQGKFPLTS
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100.0%; Score 2493; DB 9;
Best Local Similarity 100.0%; Pred. No. 2.7e-205;
Matches 452; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                     NAFWOCINGITYQQHCQAGLVFDTSCNCCNWP 452
                                                                                                                                                                                                                                                                                                                   Sequence 4, Application US/10004219B; Publication No. US20030087414A1; GENERAL INFORMATION:
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TYPE: PRT
ORGANISM: Artificial Sequence
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241 VGPPTYGHNFILSNPSNTGIGAPTSGAGPAARSGIWAYYEICTFLKNGATQGWDAP 300
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APPLICANT: Acrts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and TITLE OF INVENTION: its use in therapy or prophylaxis against diseases in TITLE OF INVENTION: which mucus is involved or infection diseases in TITLE OF INVENTION: which mucus is involved or infection diseases or FILE REPERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SEQ ID NOS: 14
SEQ ID NO 14
LENGTH: 455
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                       382 TLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGGSSGGSSGGSFCADKADGLYPVADDR
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361 TLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGGSSGGSSGGSGFCADKADGLYPVADDR
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APPLICANT:
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APPLICANT: Macrozyme
APPLICANT: Macrozyme
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: which mucus is involved or infection diseases in
TITLE OF INVENTION: which mucus is involved or infection diseases
TITLE OF INVENTION: Which mucus is involved or infection diseases
CURRENT APPLICATION NUMBER: US/10/004,2198
SOURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIN Ver. 2.1
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Publication No. US20030087414A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Macrozyme
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
APPLICANT: A mammalian mucinase, its recombinant production, and TITLE OF INVENTION: its use in therapy or prophylaxis against diseases in TITLE OF INVENTION: which mucus is involved or infection diseases
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 83.8%; Score 2089.5; DB 9; Length 476; Best Local Similarity 81.3%; Pred. No. 1e-170; Matches 369; Conservative 40; Mismatches 42; Indels 3;
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Publication No. US20030087414A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
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US-10-004-219B-10
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243 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 302
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                                                                                                                                                                                                                                                                                                                                                     Length 445;
                                                                                                                                                                                                                                                                                                                                                Query Match 52.2%; Score 1301.5; DB 9; Length Best Local Similarity 51.5%; Pred. No. 3.1e-103; Matches 235; Conservative 71; Mismatches 129; Indels
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                                                                                                                                                                                                                                 ; LOCATION: (1)..(445)
; OTHER INFORMATION: /note="Human chitotriosidase"
US-10-004-219B-10
                          US/10/004,219B
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FILE REFERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/0
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 10
LENGTH: 445
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APPLICANT: Manjula GANNAVARAPU
APPLICANT: Sebastian HOERSCH
APPLICANT: Shubhangi KAMATKAR
APPLICANT: Steve G. KOVATS
APPLICANT: Rachel E. MEYERS
APPLICANT: Machael MORRISEY
APPLICANT: Peter OLANDT
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Gordon B. MILLS
Robert C. BAST, Jr.
Karen LU
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Xumei ZHAO
Karen GLATT
                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
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Best Local Similarity
                                                                          ; TYPE: PRT
; ORGANISM: Sus
US-09-459-749D-17
                       SEQ ID NO 17
LENGTH: 383
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INVENTION: Nucleic Acid Molecules and Proteins For The Identification, INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |-|||| | |:|:|||: :| | |:|| | |:|| | |||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| QQVPXATKGNQWVGYDDQESVKSKVQYLKDRQLAGAMVWALDLDDFQGSFCGQDLRFPLT 373
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TITLE OF INVENTION: Compositions and Methods For Altering Cell Migration FILE REPERSENCE: 0794.016A
CURRENT APPLICATION NUMBER: US/09/459,749D
CURRENT FILING DATE: 1999-12-10
PRIOR APPLICATION NUMBER: 60/111,856
PRIOR FILING DATE: 1998-12-11
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22 YKLVCYYTSWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82 TLKNRNPNLKTLLSVGGWNFGSQRFSKIASNTQSRRTFIKSVPPFLRTHGFDGLDLAWLY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
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                                                             CURRENT PELICATION NUMBER: US/10/097,340
CURRENT FILING DATE: 2002-03-14
PRIOR PAPLICATION NUMBER: 06/276,025
PRIOR PILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-16
PRIOR FILING DATE: 2001-03-16
PRIOR FILING DATE: 2001-03-17
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001/09/26
PRIOR FILING DATE: 2001/09/26
PRIOR PELING DATE: 2001-08-10
PRIOR PILING DATE: 2001-08-10
PRIOR PILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: 60/325,102
PRIOR APPLICATION NUMBER: 60/325,580
PRIOR PILING DATE: 2001-09-26
PRIOR PILING DATE: 2001-09-26
PRIOR PILING DATE: 2001-09-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 363
SOFTWARE: FastSEQ for Windows Version 4.0
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Patent No. US20020136716A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
CRGANISM: Homo sapiens
US-10-097-340-45
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NAIKDAL 380
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US-LO-ZER-TA-S-ZE

Sequence 21, Application US/10218743

Publication No. US20030096779A1

| Publication No. US20030096779A1

| Publication No. US20030096779A1

| Publication No. USZ0030096779A1

| APPLICANT: McCall, Catherine A.

| APPLICANT: McCall, Catherine A.

| APPLICANT: Weber, Eric R.

| TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

| TITLE OF INVENTION: AND USES THEREOF

| FILE REFERENCE: AL-2-C3

| TITLE OF INVENTION AND USES: US/09/292,225

| PRIOR PELICATION NUMBER: US/09/292,225

| PRIOR APPLICATION NUMBER: 60/085,295

| PRIOR FILING DATE: 1998-09-02

| PRIOR PELING DATE: 1998-04-17

| PRIOR FILING DATE: 1998-04-17

| NUMBER OF SEQ ID NOS: 49

| SECOTION NO. 21
                                                                                                                                                                                                                                                                                                                                                   181 KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 VGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDAS 300
                                                                                                                                                                                                              61 DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY 120
                                                                                                                                                                                                                                                  PGSRGSPPQDXHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS 180
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                                                                                                                                     22 YKLVCYYTSWSQYRGGDGSCFPDAIDPFLCTHIIYSFANISNNEIDTLEWNDVTLYDTLN 81
                                                         Gaps
  Length 383;
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Pred. No. 4.1e-54;
     ; Score 973.5; DB 10; Length
; Pred. No. 3.2e-75;
63; Mismatches 110; Indels
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US-10-218-743-21
     39.0%;
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Query Match
Best Local Similarity 50.44
Matches 185; Conservative
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Sequence 18 Application US/10218743

Sequence 18 Application US/10218743

Publication No. US20030096779A1

GENERAL INFORMATION:

APPLICANT: MCCALL Catherine A.

APPLICANT: MCCALL SENATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: NOVER: US/10/218, 743

CURRENT PEPLICATION NUMBER: US/09/292, 225

PRIOR FILING DATE: 1999-04-15

PRIOR FILING DATE: 1999-04-17

PRIOR FILING DATE: 1999-04-17

PRIOR FILING DATE: 1999-04-17

PRIOR FILING DATE: 1999-04-17

NUMBER OF SEQ ID NOS: 49

SSOFTWARE: PATENTIN VET. 2.0

SSOFTWARE: PATENTIN VET. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NNGAPAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLR 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ||||| :||:|| || || : : :| || || || : :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :|| :
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                                                             GLDLDWEYPGSR-GSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQ 171
                                                                                                                                                             GLDLDWEYPGSRLGNPKIDKQNYLALVRELKDAFEPHG-----YLLTAAVSPGKDKID 206
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; ORGANISM: Dermatophagoides farinae
US-10-218-743-18
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APPLICANT: MCCALLION:
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: WCCALLION:
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL.2-C.3
CURRENT FILING DATE: 2002-08-13
FRIOR APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 1999-04-15
PRIOR PLING DATE: 1999-04-15
PRIOR PLING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/098,295
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR PLING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR PLING DATE: 1998-04-17
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71; Mismatches 144; Indels
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Sequence 15, Application US/10218743
Publication No. US20030096779A1
PENERAL INPORMATION:
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153; Conservative
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Sequence 38, Application US/10218743; Publication No. US20030096779A1; GENERAL INFORMATION:
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APPLICANT: WOBER, EXE R.
APPLICANT: WOBER, EXE R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: NOVEL 1000-103
FURBERT APPLICATION NUMBER: US/10/218, 743
CURRENT FILING DATE: 2002-08-13
FRIOR APPLICATION NUMBER: G0/098, 909
FRIOR PILING DATE: 1998-09-09-09
FRIOR PILING DATE: 1998-09-13
FRIOR APPLICATION NUMBER: 60/098, 565
FRIOR APPLICATION NUMBER: 60/098, 565
FRIOR APPLICATION NUMBER: 60/098, 565
FRIOR PILING DATE: 1998-04-17
FRIOR APPLICATION NUMBER: 60/098, 565
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FRIOR APPLICATION NUMBER: 60/098, 565
FRIOR FILING DATE: 1098-04-17
                                75 KHGYERFNNILKIKNPELITMISLGGWYEGSEKYSDMAANPTYRQQFVQSVLDFLQEYKFD 134
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NNGAPAEKÍIVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLR 290
                                                                                            SGATEVW----DASQEVPYAYKANEWLGYDNIKSFSVKAQWLKONNFGGAMIWAIDLDDF 346
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Similarity 37.7%; Pred. No. 1
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Publication No. US20030096779A1
GENERAL INFORMATION:
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 41
LENGTH: 490
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Best Local Simi
Matches 157;
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RESULT 12
US-10-218-743-35
i Sequence 35, Application US/10218743
i Publication No. US20030096779A1
i GENERAL INFORMATION:
i APPLICANT: McCall, Catherine A.
APPLICANT: McCall, Catherine A.
APPLICANT: McCall, Catherine A.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES,
FILE REFERENCE: AL-2-C3
CURRENT APPLICATION NUMBER: US/09/292,225
FRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1998-09-05
PRIOR FILING DATE: 1998-09-05
PRIOR FILING DATE: 1998-05-13
PRIOR FILING DATE: 1998-04-17
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365 KG-HCGP-KYPL---LNKVHNMINGDEKNSYECLLGPSTTTPT-PTTPSTTSTTTP
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PRIOR FILING DATE: 2000-08-11
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
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US-09-748-033-3
                                                                                                               TYPE: PRT
ORGANISM: Helianthus annuus
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Best Local Similarity 25.9°
Matches 108; Conservative
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SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                       US-09-923-844B-2
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                                                      TITLE OF INVENTION: WOUSE, ETTC K.

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REPERENCE: AL.2-03
CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 2002-08-13
FRIOR APPLICATION NUMBER: US/09/292,225
PRIOR FILING DATE: 1999-04-15
FRIOR APPLICATION NUMBER: G0/098,909
PRIOR FILING DATE: 1999-04-13
FRIOR PAPLICATION NUMBER: G0/098,595
FRIOR FILING DATE: 1998-04-17
FRIOR PAPLICATION NUMBER: G0/098,565
FRIOR PAPLICATION NUMBER: G0/098,565
FRIOR APPLICATION NUMBER: 09/062,013
FRIOR PLING DATE: 1998-04-17
FRIOR APPLICATION NUMBER: 09/062,013
FRIOR PLING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
SOFTWARE: PARCHIN VET: 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US 60/224,603
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , ORGANISM: Dermatophagoides farinae US-10-218-743-38
APPLICANT: McCall, Catherine A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 37.7*
Matches 157; Conservative
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APPLICANT: Lu, Guihua
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62 -LKNRNSKLKTLLAIGGWNFGTAP-FTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWE 119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173 GYEIPELSKYLDFIHVMTYDLHGSW-EGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKN 231
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                                                                                                                                                                                            30 YWPSWAQDFLP-----PSNIQTAYFTHVYYAF--LSPNNVTFQFDVHRTTASALNSFNT 81
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                                                                                                                                                  6 YFTNWAQ-YRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEIT---TIEWNDVTLYKAFND
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Patent No. US20020069431A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Broadway, Roxanne M.
APPLICANT: Gengora, Carmenza E.
TITLE OF INVENTION: EFFECT OF ENDOCHITINASE AND CHITOBIOSIDASE AND TITLE OF INVENTION: ENCODING GENES ON PLANT GROWTH AND DEVELOPMENT FILE REFERENCE: 19603/3091
CURRENT PRILICATION NUMBER: US/09/748,033
CURRENT FILING DATE: 2000-12-22
PRIOR FILING DATE: 1999-12-23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 371;
Query Match 19.1%; Score 476; DB 9; Length 37. Best Local Similarity 34.1%; Pred. No. 1.3e-32; Matches 119; Conservative 53; Mismatches 135; Indels
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122 NPAAFAKSCHDLVEDPRWADVFDGIDLDWEYPNACGLSCDSSGPAALKN----MVQAMRA 177
                                                                   144 AFEQEAIESNRPRLMVTAAVAGGISN---IQAGYEIPELSKYLDFIHVMTYDLHGSWEGY 200
                                                                                               178 QFGTD------LVTAAITADASSGGKLDAA-DYAGAAQYFDWYNWTYDFFGAWD-K 226
                                                                                                                                                                   201 TGENSPLYKYPTETGSNAYLNV---DY----VMNYWKNNGAPAEKLIVGFPEYGHTFILR 253
                                                                                                                                                                                              227 TGPTAP-----HSALNSYSGIPKADFHSAAAIAKLKAKGVPASKLLLGIGFYGRGW--- 277
                                                                                                                                                                                                                                                                     254 NPSDNGIGAPTSG---DGPA-GAYTRQAGFWAYYEICTFLRSGATEVWDASQEVPYAYKA 309
                                                                                                                                                                                                                                                                                                   278 ----TGVTQDAPGGTATGPATGTY--EAGIEDYKVLKNTCPATGTVGGTA-----YAKCG 326
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Search completed: June 29, 2003, 21:13:33 Job time: 18.3846 secs

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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-WODEL=frame+_p2n.model_-DEV=x1p
-Q=/Cogn2_1/USPPTO_spool/USION04219/runat_24062003_160228_8159/app_query.fasta_1.1877
-Q=/Cogn2_1/USPPTO_spool/USION04219/runat_24062003_160228_8159/app_query.fasta_1.1877
-DB=GenEmbl -OFMT=fastap -SUFFTX=rge -MINWATCH=0.1 -LCOPCL=0 -LCOPEXT=0
-UNITS=bits -START=1.-END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DOCALIGN=>200 -THR EXCRE=pcr -THR MAX=100 -THR MIN=0 -ALIGN=15 -MODE=LCCAL
-OUTFMT=pcr -NNRM=Ext -HEAPSIZE=550 -MINLEN=0 -MAXLEN=200000000
-USER=USIO004219_@CGN 1 1 6828 @runat_24062003 180228_8159 -NCPU=6 -ICPU=3
-NO MMAP -LARGEQÜERY -NEG SCOREG=0 -WAIT -DSPBICCK=100 -LONGLOG
-NORM=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DBLOP=6
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4477.355 Million cell updates/sec
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2493 ·
1 YNLICYFTNWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCNWP
                                                                                                         June 29, 2003, 21:03:33 ; Search time 2938 Seconds
                GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                       - nucleic search, using frame_plus_p2n model
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                                                                                                                                                                                                                                                                                                                              2054640 segs, 14551402878 residues
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                BLOSUM62
Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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M94584 Mus musculu B87757 Mus musculu AXA4905 Mus musculu AX345054 Bufo japo AX065557 Mus muscu U29615 Human chico AR21213 Sequence AR21213 Sequence AR21213 Sequence AR21213 Sequence AR21213 Sequence AR21213 Sequence AR21652 Sequence AX108752 Sequence AX108752 Sequence AX108752 Sequence AX108752 Sequence AX108752 Sequence AX108752 Sequence U62662 Homo sapien

AR172108 Sequence AL513202 Human DNA AK055165 Homo sapi AC125461 Mus muscu

U15048 Mesocriceto D32218 Hamster mR

AB074977 Haemaphys **J09550 Human ovidu** cDNA encod

D32137 Mouse mRNA 4L356387 Human DNA

cDNA encod

D16639 Bovine mRNA E09045 cDNA encodi M59903 Papio hamad UB7259 Macaca mula AF484550 Macaca ra AF347052 Oryctolag

ALIGNMENTS

AF290003 MUS MUSCU AF154571 MUS MUSCU BC011134 MUS MUSCU BC034548 MUS MUSCU AF290004 HOMO SAPI AB051629 BOS tauru AX405989 Sequence AB025008 HOMO SAPI AR02814 HOMO SAPI AK098814 HOMO SAPI

SUMMARIES

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1026 TTCAGTGTTAAGGCTCAGTGGCTTAAGCAGAACAATTTTGGAGGTGCCATGATCTGGGCC 1085
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                                                     246 GACTIGAAAACAGGAACAGCAAACIGAAAACCCTCCTGGCAAITGGAGGCIGGAACTIT
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                      AF290003 1530 bp mRNA linear ROD 27-FEB-2001
Mus musculus acidic mammalian chitinase precursor, mRNA, complete
                                                                                                                                                             Mus musculus.

Mus musculus

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota i Metazoa; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1 (bases 1 to 1530)

10 (bases 1 to 1530)

11 (bases 1 to 1530)

12 (bases 2 to 1530)

13 (bases 3 to 1530)

14 (bases 4 to 1530)

15 (bases 4 to 1530)

16 (bases 5 to 1530)

17 (bases 6 to 1530)

18 (bases 6 to 1530)
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Bloot, R.G., Verhoek, M., Swart, E. and Aerts, J.M.
Direct Submission
Submitted (26-JUL-2000) Dept. of Biochemistry, Academic Medical
Center, University of Amsterdam, Meibergdreef 15, Amsterdam 1105
AZ, The Netherlands
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'product="acidic mammalian chitinase precursor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /tissue_type="lung"
dev_stage="9-11 weeks"
3. 1424
Gr number="3.2.1.14"
/note="chitinase_precursor; AMCase"
/codon_start=1
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Matches:
Conservative:
Mismatches:
Indels:
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J. Biol. Chem. 276 (9), 6770-6778 (2001)
21125893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .1530 / Organiam="Mus musculus" / strain="BALB/c" / db_xref="taxon:10090" / sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-004-219B-9 (1-452) x AF290003 (1-1530)
                                                                                           AF290003
AF290003.1 GI:12597290
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                                                                                                                     VERSION
KEYWORDS
SOURCE
ORGANISM
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MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
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AUTHORS
                                                                                              ACCESSION
AF290003
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US-10-004-219B-9 (1-452) x API54571 (1-1526) US-10-004-219B-9 (1-16-16-16-16-16-16-16-16-16-16-16-16-16	121 ProGlyGerArgGlyErProprogliagoly@HisleuPherhavalleuValLygGlu 121	1041 11 CAGIGI 1449CGC 1 CAGIGGC 1 TAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG
Oy 421 AsnalaPheTrpClnCyslleAsnGlylleThrTyrGlnGlnHiscysGlnAlaGlyLeu 440	ocation/Qualifiers 1526 1526 1526 1526 1526 1526 1527 1527 1528 1528 1528 1528 1528 1528 1528 1528 1528 1528 1528 1538	Mismatches:

/product="Similar to eosino] /protein_id="AdH11134_1" /db_xref="GI:15029822" /translation="MYSTSGNRCTFIT" /translation="MYSTSGNRCTFIT" HLFTVLVKEMREAFEGEALESNPRLMTPIANESDNGTGAFFSGOGFAGEPTT TYDLHGSWEGYTGENSPLYKYPTETGSI HTFILRNESDNGTGAFFSGOGFAGEPTTGSI HTFILRNESDNGTGAFFSGOGFAGEPTTGSI HTFILRNESDNGTGAFFSGOGFAGEPTTGSI AYKANBHLGYDNIKSFSVKAQMKGNNIKANIK AYKANBHLGYDNIKSFSVKAQMKKQNIK AKAGISTEGCTAPDVFSEPVTTFPGSG AFWQCINGTYQQHGQAGLVFDTSGNG BASE COUNT 393 a 382 c 365 g 398 t ORIGIN	Alignment Scores: Pred. No.: Score: Score: Percent Similarity: Best Local Similarity: Ouery Match: DB: DB: DB: DB: DB: DB: DB: DB: DB: DB	-10-004-219B-9 (1-452) x BC011134 (1-1538)	Oy 1 TyrAsnLeulleCysTyrPheThrAsnTrpAlad.	Oy 41 GlnAsnAsnGluIleThrThrIleGluTrpAsnA.	Qy 61 AspLeuLysAsnArgAsnSerLysLeuLysThrLull	Db 302 GGAACTGCTCTTTCACTACCATGGTTTCCACTT Oy 101 ServallleLysPheLeuArgGlnTyrGlyPheA	Db 362 TCAGTCATCAATTCTGGGTTGGGTTTGGGTTTGGGTTTGGGTTTGGGTTTGGGG	141 482 161		Db 662 ACTGGGGGAGAATAGTCCTCTTTACAAATACCCTA Qy 221 AsnValAspTyrValMetAsnTyrTrDLysAsnAx Db 722 AATGTGGATTATGTCATGAACTATTGGAAGAACAA Qy 241 ValGlyPheProGluTyrGlyHisThrPheIleLe
	401 GlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrProValAlaAspAspArg 420 410 GlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrProValAlaAspAspArg 420 421 GGAGGCAGTGGCGATTCTGGCGAAAGCAGATGGCCTCTACCCTGGGCAGATGAGA 1320 421 AsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHisCysGlnAlaGlyLeu 440 411 AsnAlaPheTrpGGCAGTGCATCAATGGAATCACAGCAGCAGCATTGTCAAGGAGGCTT 1380	441 ValPheAspThrSerCysAsnCysCysAsnTrpPro 452 	BC011134 N Mus musculus, Similar to eosinophil chemotactic cytokine, clone MGC:18771 MAGE:4165150, mRNA, complete cds.	BC011134.1 GI:15029821 MGC. house mouse. Mus musculus	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus. 1 (bases 1 to 1538) Strausberg, R. Direct Submission Constitute (25-JUL-2001) National Institutes of Health, Mammalian	Institute, 31 Center Dr USA NIH-MGC Project URL: ht		Sequencing Center. Center code: BCM-HGSC Web site: http://www.hgsc.bcm.tmc.edu/cdna/ Contact: am@bcm.tmc.edu Contact: am@bcm.tmc.edu Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M., Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M., Richards, S., Gibbs, R.A.	Clone distribution: MCthrough the I.M.A.G.E. Series: IRAK Plate: 2. Location/Qua.e. 1.1538	/dap="FVB"/ /flone="MGC:18771 IMAGE:4165150" /tissue type="Salivary gland, 10 week old female mouse" /clone lib="NCI CGAP_SG2" /lab_nost="DH10B" /noce="Vector: pCMV-SPORT6" /codon_start=1
	8 4 8 4	유 상 유	RESULT 3 BC011134 LOCUS DEFINITION	VERSION KEYWORDS SOURCE ORGANISM	REFERENCE AUTHORS TITLE JOURNAL	REMARK	COMMENT		FEATURES SOURC	CDS

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FITSVIKFLRQYGFDGLDLDWEYPGSRGSPPQDK
TRGAWTAAVAGGISNIQAGYEIPELSKYLDFIHVM
TIGSNAYLNUVDYWNNYMKNNGAPAEKLIVGFPEYG
EYTRQAGFWAYYEICTFLRSGATEWDASQEVPY
CONNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTLN
GSGGSGGGSSGGSGFCADKADGLYPVADDRN
FCNCCWWP"
88 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                    AspGlyLeuAspLeuAspTrpGluTyr 120
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                                                                                                                                                                                                                                             HisLeulleTyrAlaPheAlaGlyMet 40
                                                                                                                                                                                                                                                                                                                                  AspvalThrLeuTyrLysAlaPheAsn 60
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4. codon start=1

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/product="chitinase, acidic"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ProGlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGlu 140
Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M.,
Richards, S., Gibbs, R.A.
                                                                         Clone distribution: MGC clone distribution information can be for through the I.M.A.G.E. Consortium/LINL at: http://image.llnl.gov series: IRAK Plate: 24 Row: h Column: 16
This clone was selected for full length sequencing because it passed the following selection criteria: Similarity but not identity to protein.
                                                                                                                                                                                                                                                                                                                                                                                              week old female mouse"
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451
0
                                                                                                                                                                                                                                                                                                                                                                                           /tissue type="Salivary gland, 10
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/lab host="bH10B"
/note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                     clone="MGC:19045 IMAGE:4189080"
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                                                                                                                                                                                                                                                                                       /organism="Mus musculus"
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382 c 366 g 35
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                                                                                                                                                                                                                                                                                                               /db_xref="taxon:10090"
/map="FVB/N"
                                                                                                                                                                                                                                         Location/Qualifiers
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DB:
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ORIGIN
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Mus musculus, chitinase, acidic, clone MGC:19045 IMAGE:4189080, mRNA. complete cds.
BC034548.1 GI:21961190
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  GTTGGATTCCCAGAGTATGGACACACCTTCATCCTGAGAAACCCCTCTGATAATGGAATT 841
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
1 (bases 1 to 1557)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (24-JUL-2002) National Institutes of Health, Mammalian
Gene Collection (MGC), Cancer Genomics Office, National Cancer
Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
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Center code: BCW-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
Contact: amg@bcm.tmc.edu
Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M.,
                                                      GlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrp
                                                                                                                                                                                        GCCTACTATGAGATTTGCACCTTTCTGAGAAGTGGAGCCACTGAGGTCTGGGATGCCTCC
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                                                                                                         GGTGCCCCTACCTCTGGTGATGGCCCTTGCTGGGCCCTATACCAGACAGGCTGGGTTCTGG
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Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Baylor College of Medicine Human Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
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                       MetArgGluAlaPheGluGluAlaIleGluSerAsnArgProArgLeuMetValThr
                                                                      AlaAlaValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSer
                                                                                      ACTGGGGAGAATAGTCCTCTTTACAAATACCCTACTGAGACTGGTAGCAATGCCTACCTC
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AF290004 1625 bp mRNA linear PRI 27-FEB-2001 Homo sapiens acidic mammalian chitinase precursor, mRNA, complete

GI:12597292

AF290004 AF290004.1

ACCESSION VERSION

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/trainiation="Wiklillegluliinlolgsayolicvfthwaqyrpglgreffedd"
Nidpclicthliyafagnoneittiewndythygargleknknsolgiktllaiggnbef
Nidpclicthliyafagnoneittiewndythygarglebdrosolgebodkhletulus
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/note="chitinase precursor; AMCase; chitinase activity demonstrated by expression in COS cells; similar to aequences presented in GenBank Accession Numbers AB025008 and AB025009"
                                 Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (Sess 1 to 1625)
Boot, R.G., Blommaart, E.F., Swart, E., Ghauharali-van der Vlugt, K.,
Bijl,N., Moe,C., Place,A. and Aerts,J.M.
Identification of a novel acidic mammalian chitinase distinct from
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/db_xref="GI:12597293"
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2 (basses 1 to 1625)
Boot,R.G., Verhoek,M., Swart,E. and Aerts,J.M.
Direct Submission
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Conservative:
Mismatches:
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J. Biol. Chem. 276 (9), 6770-6778 (2001)
21125893
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    1625
    /organism="Homo sapiens"
    /db_xref="taxon:9606"

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2 (Dases 1 to 1529)
2 (Dases 1 to 1529)
Suzuki,M., Morimatsu,M. and Syuto,B.
Direct Submission
Submitted (23-NOV-2000) Masako Suzuki, Iwate University, Department
of Veterinary Medicine, Faculty of Agriculture; Ueda 3-18-8,
Morioka, Iwate 020-8550, Japan (B-mail:u9998001@iwate-u.ac.jp,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAPFTAMVATPENRKTFISSVIKFLHQYGFDGLDFDWEYPGFRGSPSQDKHLFTVLVQ
TETRAFRQBAKQTNKRPLLYTAAVAAGSINIQAGYEIPQLOSQYLDFIHWTYDFHGSW
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TYKQNCLTGLVFDTSCHCCNNA*
                                                                                                                                   07-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MAKLIFLTGLAFLLNAQLGSAYQLVCYFSNWAQYRPGLGSFKPD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
Bovidae, Bovinae, Bos.
                                                                                                                                1529 bp mRNA linear MAM 07-NOV-20 for chitin binding protein b04, complete
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1487 GCCGGGCTTGTTCGACACCAGCTGTGATTGCTGCAACTGG 1528
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/protein id="BAB71805.1"
/db_xref="GI:16754895"
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Matches:
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/db_xref="taxon:9913"
/tissue_type="liver"
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13. .1431
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AB051629.1
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                                                       466
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                                    GGGACTGCCCCTTTCACTGCCATGGTTCTACTCCTGAGAACCGCCAGACTTCATCACC
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GlyThrAlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThr
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/note:"Library from the product" / note: "unnamed protein product" / note: "unnamed protein product" / codon start=1 / protein id="ca135096.1" / db xref="d1:21439408.1" / db xref="d1:21439408" / translation="MVSTPENROTFITSVIKPLRQYEFDGLDFDWEYPGSRGSPPQDK HLFTVLVODEWREFEEDGARQINKPRLMVTAAVAAGISONIOSOFIEDGLGOYLDYTHVM TYDLHGSWEGYTGENSPLYKPTDTGSNAYLHVDYWYWYWNDGAPPAECLIVGFTYG HNFILSNPBNTGIGAPTSGARGPARESGIWAYYETCHELKNGATGGONDAPQEVPY AYGGNWWYGYDNIKSPDISAPTRKEGGAMVWAIDLDDFTGTFCNGKFPLISTLK KALGLOGASGCTRADOPIEDFITSTLK KALGLOGASGCTRADOPIEDFITSTLK KALGLOGASGCTRADOPIEDFITSCDCGNWA" NRNAFWHGYNGYTYQONCQAGLVPDTSCDCGNWA" 393 c 341 g 308 t
                                                                                                                                                                                                                                                                                                                                                                       Tang, Y.T., Liu, C., Zhou, P., Asundi, V., Zhang, J., Zhao, Q.A., Ren, F., Xue, A.J., Yang, Y., Wehrman, T. and Drmanac, R.T. Novel nucleic acids and polypeptides Patent: WO 0222660-A 404 21-MAR-2002; HYSEQ, INC. (US)
                                                                                                                                                                                                             PAT 14-JUN-2002
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ATCACCTCAGTCATCAAATTCCTGCGCCAGTATGAGTTTGACGGGCTGGACTTTGACTGG
                                                AsnalaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHisCysGlnAlaGlyLeu
                                                                 79 AsnPheGlyThrAlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59 PheAsnAspLeuLysAsnArgAsnSerLysLeuLysThrLeuLeuAlalleGlyGlyTrp
                                                                                                                                                                                                                                                                                                             Homo sapiens
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Butele
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                             linear
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Matches:
Conservative:
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                                                                                                                                                                                                             DNA
                                                                                                             AX405989 1369 bp
Sequence 404 from Patent W00222660.
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1. 1369
Acganism="Homo sapiens"
Ab xref="taxon:9606"
154-.1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-004-219B-9 (1-452) x AX405989 (1-1369)
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                  1273
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AB025008 1 GI:6467176 1000el member of chitinase family; TSA1902-L. Homo sapiens CDNA to mRNA.
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MetabnTyrTrpLysAbnAsnGlyAlaProAlaGluLysLeuIleValGlyPheProGlu 245
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262
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1 (sites)
Saito, A., Ozaki, K., Fujiwara, T., Nakamura, Y. and Tanigami, A.
Isolation and mapping of a human lung-specific gene, TSA1902, encoding a novel chitinase family member
Gene, 239 (2), 325-331 (1999)
TyrGlyHisThrPhelleLeuArgAsnProSerAspAsnGlyIleGlyAlaProThrSer
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                                  ProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeuAsnValAspTyrVal
                                                                                                                                                                                                                                                                                                                                                                                                                                            AB025009.1 GI:6467178
novel member of chitinase family; TSA1902-8.
Home sapiens cDNA to mRNA.
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DEFINITION
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Saito, A., Ozaki, K., Pujiwara, T., Takahashi, E. and Tanigami, A. Direct Submission
Submission
Submitted (16-MAR-1899) Akihiko Saito, Otsuka Pharmaceutical Co., Ltd., Otsuka GSR Research Institute; 463-10 Kagasuno Kawauchi-cho, Tokushima, Tokushima, 771-0192, Japan (B-mail:saito@otsuka.gr.jp, Tel:81-88-665-2888, Pax:81-88-637-1035)
I. .1188
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Center; Shirokane-dai, 4-6-1, Minato-ku, Tokyo 108-8639, Japan (E-mail:cdnal@ims.u-tokyo.ac.jp, Tel:81-3-5449-5286, Fax:81-3-5449-5466, Fax:81-3-5449-5466, Fax:81-3-5449-5466, Fax:81-3-5449-5466, Fax:81-3-5449-5466, Fax:81-3-549-5466, Fax:81-3-549-5466, Fax:81-3-549-546, Fax:81-3-549-546, Fax:81-3-549-546, Fax:81-3-549-546, Fax:81-3-549, Fax:81-3-549
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Indels:
                                                                                                                                                                                                                                                                                                                                                     // 1. 4250
/organism="Homo sapiens"
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/clone="STM04207"
/tissue type="stomach mucosa"
/clone_lib="STM"
/note="cloning vector: pME18SFI
/note="cloning vector: pME18SFI
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4250 bp mRNA linear PRI 15-JUL-2002 Home sapiens cDNA FLJ25948 fis, clone STM04207, highly similar to AK0908014

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHiscysGlnAlaGlyLeuValPhe 442
                                               TyrGlyHisThrPhelleLeuArgAsnProSerAspAsnGlyIleGlyAlaProThrSer 265
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Kodaira,H., Furuya,T., Takahashi,M., Kikkawa,E., Omura,Y., Abe,K.,
Kamihara,K., Katsuta,N., Sato,K., Tanikawa,M., Yamazaki,M.,
Suzuki,Y., Hata,H., Makagwa,K., Mizuno,S., Morinaga,M.,
Kawamura,M., Sugiyama,T., Irie,R., Otsuki,T., Sato,H.,
Nishikawa,T., Sugiyama,A., Kawakami,B., Nagai,K., Isogai,T. and
                                                                                                                                                                                                                                         584
                                                                                                                                                                                                                                                                                                      sThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGluValProTyr 305
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Memo sapiens
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                         GlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyrTyrGluIle
                                                                                                                                                                                                                                  GGTGCTGGTCCTGCTGGGCCCTATGCCAAGGAGTCTGGGATCTGGGCTTACTACGAGATC
                                                                                                                                                                                                                                                                                                                                        GCTCCCAGTGGCAGCGGGAACCGGGAGCGGAGTAGCAGCTCTGGAGGCACCTCGGGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         465 TATGGACACACTTCATCCTGAGCACCCTCCAACACTGGAATTGGTGCCCCCACCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSerValLysAla
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cDNA to mRNA, clone_lib:STM
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NEDO human cDNA sequencing project
Unpublished
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VERSION
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PAPFSAMVSTPQURQIFĪQSVIRFLRQĪNFDGLNLDWQYPGSRGSPPKDKHLFSVLVK
BRRKAFEBESVBKDIPRLATGAGITOVIKSGYKIPELGSGELDYIQVMYYDLADPK
DGYTGENSPLYKSPYDIGKADLNUDSIISYWKDHGASEKLIVGPRYGPRYGFTLSDP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            256 GGTCTGAAAGACAAGAACACTGAGCTAAAAACTCTCCTGGCCATTGGAGGATGGAAGTTT 315
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 LysTyrLeuAspPhelleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyr 200
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                                            product="secretory protein precursor"
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/db_xref="G1:11140877"
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/gene="Yml"
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/gene="Ym1"
76. .1206
/gene="Ym1"
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Owhashi, M., Arita, H. and Hayai, N. Identification of a novel eosinophil chemotactic cytokine '(ECF-L) as a chitinase family protein
J. Biol. Chem. 275 (2), 1279-1286 (2000)
CAGTCTCTTGACTATATTCAGGTCATGACATATGATCTCCATGATCCTAAGGATGGCTAC
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Submitted (06-SEP-1996) Makoto Owhashi, The University of Yokushima, Faculty of Integrated Arts and Sciences; 1-1 Minami-Johasnijma, Tokushima, Tokushima 770, Japan (E-mail:ohashi@ias.tokushima-u.ac.jp, Tel:0886-56-7261,
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ECF-L precursor, complete cds.
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Mus musculus
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/organism="Mus musculus"
/db_xref="taxon:10090"
/tisue_type="bone marrow"
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/gene="mECF-L"
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On Oct 7, 1999 this sequence vo Sequence updated (05-Oct-1999)
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NGYTGENSPLYKSPYDIGKSADLNVDSIITYWKDHGAASEKLIVGFPAYGHTFILSDP
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Off Mills Rd, Acton, Canberra, ACT 2601, Australia
Sequence update by submitter
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/note="isolated from the lung lavage from allergic mice"
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OBSYBECKVRELKESGFEGAWWAIDDDFEGARCONQRYPLINHLKSLLEGSTVNCPG
EICGGISIPTPSATTTTTTTATWAFDCTTFBEPVTPPPVPPVIDVDPNFCVEKTDGLH
VNPLMTNKPYICAMGRYSMKCADGLVFQASCNCCNPP
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   FTDMVASSGNRSIFIKSVIAYLRQNNFDGIDLDFEYPGSRGSPPEDKQRFTVLIQEMI
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/product="toad pancreatic
/EC number="3.2.1.14"
/evidence=experimental
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/prodict="tood pancreatic chitinase"
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/db_xref="GT:15963341"
/db_xref="SPTREMEL:Q90M34"
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Bufo japonicus mRNA for toad pancreatic chitinase (tPCase gene).
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Submitted (03-SEP-2001) Oshima H., Department of Biology, Waseda
University, Nishiwaseda 1-6-1, Shinjuku-ku, Tokyo, 169-8050, JAPAN
281 AlaTyrTyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSer 300
                                                                                                                                      Bufo japonicus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae;
Bufo.
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                                                 GlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrp
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Kikuyama,S.
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/function="chitin fragmentation"
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University, Tokyo, Japan
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SKNGIGDPTVSAGPGKYTNEQGLLAYFEI CTFLNEGATE FPATGEVPYALGNEW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244 GGTCTGAAAGACAGGAACACTGAGCTAAAAACTCTCCTGGCCATTGGAGGATGGAAGTTT 303
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/db_xref="G1:18086514"
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MAN-auseulus putative secretory protein precursor (Ym2) mRNA,
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
1 (bases 1 to 1209)
:::||||||||| :: ||||||| CTTGGATTCCCCAAATGCTGAATGTGT
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                                                                                                                                     GlylleGlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGly
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1024 TTCAAGTTGAAGGCTCAGTGGCTCAAGAACAACAATTTAGGAGGTGCCGTGGCTCTGGCCC 1083
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604 CAGTCTCTCGACTATATTCAGGTCATGACATATGATCTCCCATGATCCTAAGAATGGCTAC 663
                                                    201 ThrGlyGluAsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeu 220
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Disease treatment; infection; chronic occlusive pulmonary disease; bronchial asthma; ds.
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-QFGGG01_1/GVSPTO_SROO1/USI_D004219/unnat_24062003_160227_8151/app_query.fasta_1.1877
-Q=CGG01_1/GVSPTO_SROO1/USI_D004219/unnat_24062003_160227_8151/app_query.fasta_1.1877
-LOSPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DGOALIGN=200 -THR SCORES=pct -THR MMA=0 -ALIGNS=15
-MODE=LOGAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINIEN=0 -MINIEN=0 -ROO0000000
-USER=USI0004219_@CGN 1_1_626_@runat_24062003_16027_8151 -NCPU=6 -ICPU=3
-NO MAAP -LARGEQUERY -NGG_SCORES=0 -WAIT -DSPENCK=100 -LONGLOG
-PGDV_TIMEOUT=120 -WARN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                 ValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIle
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 ThrGlyGluAsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeu
             disease;
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                                                                                                                                                                                               The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligomucleotide described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrAsnLeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnAsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 CAGAACAACGAGGAGTCACCACCATCGAATGGAATGTGACTCTCTACCAAGCTTTCAAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease
                                                                                                                                                                                                                                                                              BP; 324 A; 398 C; 349 G; 297 T; 0 other;
                                                                                                                                                                                                                                                                                                                   1368
369
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                                                       Claim 5; Page 100; 114pp; Japanese
                                                                                                                                                                                                                                                                                                                   3.22e-178
2089.50
90.09%
81.28%
14-NOV-2000; 2000WO-JP08015
                          99JP-0324467
                                                   (TAKE ) TAKEDA CHEM IND
                                                                             Morita S;
                                                                                                      WPI; 2001-397791/42.
                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                               Sequence 1368
                                                                             Nakanishi A,
                          15-NOV-1999;
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Pred. No.:
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                                                                                                                                                                                    GlnGluvalProtyrAlaTyrLy8AlaAsnGluTrpLeuGlyTyrAspAsnIleLy8Ser 320
                                                                 ValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIle 260
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                                                                                                                                    The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligonucleotide described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProGlySerArgGlySerProProGlnAspLy8HisLeuPheThrValLeuValLy8Glu
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                                                                                    New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease
                                                                                                                                                                                                                            1678
369
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                                                                                                                                                                                                 Sequence 1678 BP; 397 A; 497 C; 418 G; 366 T; 0 other;
                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                     Example 5; Page 107-108; 114pp; Japanese
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                                                                                                                                                                                                                           4.23e-178
2089.50
90.09%
81.28%
83.81%
             99JP-0324467
                              (TAKE ) TAKEDA CHEM IND
                                                  Morita
                                                                     WPI; 2001-397791/42.
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Best Local Similarity:
             15-NOV-1999;
                                                  Nakanishi A,
                                                                                                                                                                                                                     Alignment Scores:
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967 ATCTCCACCCTGAAGAAGGCCCTCGGCCTGCAGTGCAAGTTGCAGGCTCCAGGCTCCAG 1026
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LeulleValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsn
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                                                                                                                                                                                                                                                                                                        novel human proteins. These were isolated from expressed sequences tags (ESTB). They can be used to stimulate cell growth, to regulate haematropiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat stroke and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a coding sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98
                                                                                                                                                                                                                                                                                           present invention provides the protein and coding sequences of 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGTACCCTGGCTCTCGTGGGAGCCCTCCTCAGGACAAGCATCTCTTCACTGTCCTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCACTGCTGCAGTAGCTGCTGGCATCTCCAATATCCAGTCTGGCTATGAGATCCCCCAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGTCACAGTACCTGGACTACATCCATGTCATGACCTACGACCTCCATGGCTCCTGGGAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ::: ::: TATACTGAATTTGCAGCTCGGAACAGCCAGCTGAAAACTCTCCTGGCCATTGGAGGCTGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCACCTCAGTCATCAAATTCCTGCGCCCAGTATGAGTTTGACGGGCTGGACTTTGACTGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysGluMetArgGluAlaPheGluGlnGluAlaIleGluSerAsnArgProArgLeuMet
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                                                                                                                                                                                                 An isolated polynucleotide for treating diseases associated with its encoded polypeptide such as cancer and multiple sclerosis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheAsnAspLeuLysAsnArgAsnSerLysLeuLysThrLeuLeuAlalleGlyGl
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                                                                                           Ren
                                                                                           Zhao QA,
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                          Asundi V, Zhang J,
F, Drmanac RT;
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                                                                                                                                                                                                                                                   Claim 1; SEQ ID NO 404; 509pp; English
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1778.50
89.14%
79.55%
                    11-SEP-2000; 2000US-0659671
                                                                                          Zhou P,
Wehrman
                                                                                                                                              WPI; 2002-292408/33
P-PSDB; ABB97580.
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Best Local Similarity:
Query Match:
                                                      (HYSE-) HYSEQ INC
                                                                                        Liu C,
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1369
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                                                                                        Tang YT,
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GlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrp 280
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                                                                      GGTGCCCCTACAATTAGTACTGGCCCACCAGGAAGTACACAGATGAATCAGGACTCCTG 911
                                                                                                                                                                                                                                                  341 IleAspLeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSer
 ValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIle
                      Gregeattrecaecataresecatacertrarecreasgaecertraagaeresaarr
                                                                                                                                                 GlnGluValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix; ss.
                                                                                                                                                                                                                                                                                                                       ACTITIAAAGGGAGATCTCAATATACACAGTGCAAGTTGCAAGGGCCCT 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                                                                                      ThrieuAsniysAlaLeuGlyIleSerThrGluGlyCysThrAlaPro 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2..64
/*tag=' b
65..1399
/*tag= chitinase
/product= chitinase
/note= "from clone MO-218"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
2..1402
/*tag= a
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                                                                                                                                                                                                                                                                                                                                          131
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                                                                                                                                                                                                                                                                                                                   20
                                                                                 The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligomucleotide described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 TyzanleulleCysTyrPheThrasnTrpAlaGlnTyrArgProGlyLeuGlySerPhe
                                                                                                                                                                                                                                                                                                                                Serval IleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyr
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TCCACAGGAGCAGGAATCATTGACGTAATCAAGTCTGGGTACAAGATCCCTGAACTGTCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnAsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        asthma
                      treatment of bronchial infectious disease -
                                                                                                                                                              Sequence 1469 BP; 406 A; 331 C; 332 G; 400 T; 0 other;
                                                                                                                                                                                                  1469
249
55
72
0
                                                                                                                                                                                                Length:
Matches:
Conservative: 5
Mismatches: 7
Indels: 0
Gaps: 0
                                                                                                                                                                                                                                                                                        (1-1469)
                                                           Disclosure; Page 106; 114pp; Japanese.
                     New proteins, peptides and DNA for
chronic occlusive lung disease and
                                                                                                                                                                                                                                                                                        US-10-004-219B-9 (1-452) x AAH42023
                                                                                                                                                                                                  4.86e-115
1387.00
80.85%
66.22%
55.64%
WPI; 2001-397791/42.
                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                      Alignment Scores:
Pred. No.:
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AspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuIleValGly
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/product= Human_Chitinase
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66..1402
/*tag= c
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                      This sequence encodes a novel human chitinase isolated from clone MO-218. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The mucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('Knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents, and thus of their side effects.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGCACT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               311 CAGAAGTTCACAGATATGGTAGCCACCGCCAACAACCGTCAGACCTTTGTCAACACCGCCC
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                                                                                                                                                                                                              other
                                                                                                                                                                                                                                                                        Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                              Seguence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0
                                                                                                                                                                                                                                                 Length:
Matches:
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Claim 3; Page 38-40; 63pp; English.
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                                                                                                                                                                                                                                               2.71e-107
1301.50
67.11%
51.54%
52.21%
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Query Match:
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1025 ACCAAGGTCAGCTATCTGAAGCAAGGGACTGGGCGGGGCCATGGTCTGGGCACTGGAC 1084
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer 322
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                                                                                                                                                                                                           282
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911 TATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAATCCAGGATCAGAAG 964
                                                                                                                                                                                                                                                                                                                                                 TyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              396 SerGlyGlySerSerGlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro
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                                                                                                                                                                                                                                                                        GATECTGCTGTGCAACAGTGGCTGCAGAAGGGGACCCCTGCCAGCAAGCTGATCCTTGGC
                                                                        243 PheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla
                                                                                                            ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VallysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 363 AsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspVal------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MO-218 clone of human Chitinase, with noncoding 5'/3' regions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1349 recceacadeceregrerreaceacrecedeaarecrecede 1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysGlnAlaGlyLeuValPheAspThrSerCysAsnCysCysAsnTrp
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This is the nucleotide sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear homopolymer of beera, 1,4-linked N-acety1ghtosamine residues).

Chitinase fragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for purifying chitinase, as well as for purifying chitinase, as well as for chitinase. Polynucleotide fragments of detection and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungished to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungished infection treated include candidates, aspergillosis, coccidiodomycosis, blastcomycosis, paracoccidiodomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, mucormycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, chitin can be degraded by the enzyme chitinase. Use of whole chitinase protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life-threetering fungal infection in e.g. immunocomposed individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                    chitin-binding fragments of human chitinase used to treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Page 55-57; 83pp; English
                                                                                                                                        99WO-US05343
                                                                                                                                                                                    98US-0039198
                                                                                                                                                                                                                                                                                  Tjoelker LW;
                                                                                                                                                                                                                                                                                                                                                                                                                               infections in animals
                                                                                                                                                                                                                                                                                                                               1999-551417/46.
                                                                                                                                                                                                                                   (ICOS-) ICOS CORP.
                                                                                                                                                                                                                                                                                                                               WPI; 1999-551417/
P-PSDB; AAY42425.
                                                                                                                                                                                       12-MAR-1998;
                                                                                                                                        12-MAR-1999;
                                               WO9946390-A1
                                                                                           16-SEP-1999
                                                                                                                                                                                                                                                                                  Gray PW,
                                                                                                                                                                                                                                                                                                                                                                                                       Novel
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Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other;

		22	130	42	190	62	250	82	310
Length: 1636 Matches: 235 Conservative: 71 Mismatches: 129 Indels: 3	(1-1636)	rpAlaGlnTyrArgProGlyLeuGlySerPheLysPro	71 CTGGTCTGCTACTTCACCTACTGGGCCCCAGTACAGACAG	23 AspAspIleAsnProCysLeuCysThrHisLeulleTyrAlaPheAlaGlyMetGlnAsn 42	GCACCCACTCATCTACGCTTCGCTGGCATGACCAAC	AsnGlulleThrThrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsnAspLeu 62	CACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAATGGCCTG	(IleGlyGlyTrpAsnPheGlyThr	251 AAGAAGATGAATTCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGCACT 310
2.71e-107 1301.50 arity: 67.11% milarity: 51.54% / 52.21%	US-10-004-219B-9 (1-452) x AAZ21847 (1-1636)	LeuIleCysTyrPheThrAsnT	CTGGTCTGCTACTTCACCAACT	AspaspileAsnProCysLeuC	AAGGACTTGGACCCCAGCCTTT	AsnGlulleThrThrIleGluT	CACCAGCTGAGCACCACTGAGT	LysAsnArgAsnSerLysLeuL	AAGAAGATGAATCCCAAGCTGA
Alignment Scores: Pred. No.: Score: Score: Percent Similarity: Pertent Similarity: Query Match:	JS-10-004-219	e S	Db 7.1	Qy 23	Db 131	Oy 43	191	ο _γ 63	Db 251
7101101	-		_				1		-

436 CysGlnAlaGlyLeuValPheAspThrSerCysAsnCysCysAsnTrp 451

1084 1085 rradardacrrrccodecrrcrccrdecadededecearaccecercarecadadecera 1144 ::: ||| :: ||| 1145 CGGCAGGCAACTTCAGCCTTCAGGCACCCCAGAGGCTTCCAAAA 1204 342 416 ValAlaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHis 435 ValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLysTyr 182 282 343 LeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSerThrLeu 362 CAGAAGTTCACAGATATGGTAGCCACGGCCAACAACCGTCAGACCTTTGTCAACTCGGCC 370 222 242 790 262 TyrdlulleCygThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302 303 ValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer 322 83 AlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThrSerVal 102 SerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGluMetArg 142 GlualaPheGluGlnGluAlaIleGluSerAsnArgProArgLeuMetValThrAlaAla 162 GTTCCAGCTGGGCAGACCTATGTGGATGCTGGATACGAGGTGGACAAAATCGCCCAGAAC 610 ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr 363 AsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspVal-----------ProSerGluProValThrThrProProGlySerGlySerGlyGlySer 1205 CCAGGTCAGCCTCTGAACCT-----GAG 791 ATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTGGGGGCC 323 ValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp SerglyGlySerSerGlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro caroscoccasocorasonas acontrolocas as carastas and controlocations and controlocations and controlocations and controlocations and controlocations are controlocations. IleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyrProGly LeuAspPhelleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThrGly GluAsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeuAsnVal AspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuIleValGly PheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla 311 491 103 371 431 143 163 551 611 203 223 731 243 263 851 283 965 379 396 123 183 g ద 셤 g . **Q** 요 qq ò a ò ద ò g δ g ð ઠે 셤. 8 8 요 ò 셤 ò 셤 ò ò 셤 ò 8 ò ò ò

us-10-004-219b-9.rng

129 21 3

Mismatches: Indels: Gaps:

51.54% 52.21% 22

Best Local Similarity: Query Match: DB:

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Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                                                                                                                                                                       Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiaals; aspergillosis; coccidioidomycosis; blastomycosis; bastomycosis; paracoccidiomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              *tag= b
55.1399
*tag= 7
product= "Human mature chitinase from clone pMO-218"
1349 TGCCCGACAGGCCTGTTCAGCAACTCCTGCAAATGCTGCACCTGG 1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Human chitinase from clone pMO-218"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gray PW, Shaw KD,
                                                                                                                                                                                                                                                                           Human chitinase cDNA from clone pMO-218.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 2; Page 29-31; 39pp; English
                                                                                                                           AAD03759 standard; cDNA; 1636 BP.
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/*tag= a
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                                                                                                                                                                                                                          19-JUN-2001 (first entry)
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P-PSDB; AAE00432.
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                                                                                                                                                                                                                                                                                                                                                                                                                        clone pMO-218; ss.
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                                                                                                                                                                         AAD03759
                                                                          RESULT 7
                                                                                                    AAD03759
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The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such a candidiasis, aspergillosis, blastomycosis, coccidioidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, sporotrichosis and dernatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties. The present sequence is human chitinase con formulation ph0-218. Chitinase enzyme degrades chitin which is a homopolymer of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   beta-(1,4)-linked N-acetylglucosamine residues.
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g Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other; 1636 235 71

Length: Matches: Conservative:

2.71e-107 1301.50 67.11\$

Percent Similarity:

Alignment Scores: Pred. No.:

US-10-004	-219B-9 (1-452) x AA
ò	\(\sigma_{-1}^{\sigma} \)
qq	CIGGICTGCTACTICACCAACTGGGCCCAGIACAGACAGGGGGGGGGG
δ	vileAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn 4
Dp	AAGGACTIGGACCCCAGCCTTTGCACCCACCTCATCTACGCCTTCGCTGGCATGACCAAC 1
ò	m
Dp	CACCAGCTGAGCACCTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAATGGCCTG 2
δλ	rLysLeuLysThrLeuLeuAlalleGlyGlyTrpAsnPheGlyThr 8
Db	AAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGCACT 3
δλ	AlaProPheThr
DÞ	m D
۵,	103 IleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyrProGly 122
Dp	1 Arcagginicigcecaanacagcinicacgecineaccineacidegagiacceaga 4
8	123 SerArgGlySerProProGlnAspLy8HisLeuPheThrValLeuValLysGluMetArg 142
рр	431 AGCCAGGGGAGCCCTGCCGTAGACAGAGCGCTTCACAACCCTGGTACAGACTTGGCC 490
ò	143 GluAlaPheGluGlnGluAlaIleGluSerAsnArgProArgLeuMetValThrAlaAla 162
qa .	491 AATGCCTTCCAGGAGGCCCAGACCTCAGGAAGGAACGCCTTCTTCTGAGTGCAGG 550
à	3 ValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLysTyr 1
Dp	551 GTTCCAGCTGGGCAGACCTATGTGGATGCTGGATACGAGGTGGACAAAATGCCCCAGAAC 610
à	183 LeuAspPhelleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThrGly 202
Dp	611 CTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAGAAGGTCACGGGA 670
λŏ	203 GlubsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeuAsnVal 222
QQ	671 CATAACAGCCCCCTCTACAAGAGGCAAGAAGAGAGTGGTGCCAGCCA
ò	223 AspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuIleValGly 242
Dp	731 GATGCTGCTGCTACAGTGGCTGCAGAAGGGGACCCCTGCCAGCAAGCTGATCCTTGGC 790
ò	243 PhebroGluTyrGlyHisThrPhelleLeuArgAsnProSerAspAsnGlyIleGlyAla 262
Dp	791 ATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTGGGGGCC 850
ò	263 ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr 282
Ор	851 CCAGCCACAGGGTCTGGCACTCCAGGCCCCTTCACCAAGGAAGG
'n	283 TyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
qq	911 TATGAAGTCTGCTCGTCGAAGGGGCCACCAACAGAGAATCCAGGATCAGAAG 964
à	303 ValbroTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer 322
QQ	965 GIGCCTACAICTICCGGGACAACCAGIGGGIGGGCTITGAIGAIGAIGAGGITCAAA 1024
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1229 CATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGATGGGCTCTATCCC 1288
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                                                                                                                                                    1145 CGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCCAGAGCTTGAAGTTCCAAAA 1204
                                                                                                                                                                                                                                                           1205 CCAGGTCAGCCCTCTGAACCT-----GAG 1228
                                                                                                      363 AsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspVal----- 378
                                                                                                                                                                                                                                                                                                                                                                                                                  416 ValAlaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHis 435
LeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSerThrLeu
                                                                                                                                                                                                        ------ProSerGluProValThrThrProProGlySerGlySerGlyGlyGlyGlySer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 candidiasis, aspergillosis, coccidioidomycosis; blastomycosis;
paracoccidioidomycosis; histoplasmosis; cryptococcosis;
chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
Pneumocystis; gene; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      436 CysGlnAlaGlyLeuValPheAspThrSerCysAsnCysCysAsnTrp 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chitinase; enzyme; human; fungicide; antifungal; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Chitinase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human chitinase cDNA clone MO-218.
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from a cDNA library prepared from paripheral blood monocyte-derived macrophages following sequence analysis. Also isolated was isolated macrophages following sequence analysis. Also isolated was clone MO-13B (see ABL57381), which contains a single nuclectide difference in the coding region, changing the encoded amino acid at position 81 of the mature protein from glycine to serine. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against bathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products. Human chitinase has a synergistic effect on the actions of other infections or for the development of such products. Human chitinase has a synergistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungilineted infection such as candidiasis, aspergillosis, coccidioidomycosis, paracoccidioidomycosis, paracoccidioidomycosis, propressions or contractions or 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytoses and Pneumocysis infections (all claimed). In particular, the fungal infection involves Candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
The present seguence is that of cDNA clone MO-218 (ATCC 98077)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other;
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Query macch: DB:	24.214	Gaps:	3 1
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Oy 3 Leu	3 LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerF	TrpálaGlnTyrArg	ProGlyLeuGlySer

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ò	м	3 LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro 22
qq	. 71	CTGGTCTGCTACTTCACCAAACTGGGCCCCAGTACAGACAG
ò	23	AspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn 42
qq	131	131 AAGGACTTGGAACCCCAGCCTTTGCACCCACCTCATCTACGCCTTCGCTTGCATGACCAAC 190
ò	43	
QQ	191	CACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTTACCAGGAGTTCAATGGCCTG 250
à	63	
qq	251	AAGAAGATGAAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGCACT 310
ò	83	AlaProPheThrThrMetValSerThrSerGlnAenArgGlnThrPheIleThrSerVal 102
Dp	311	311 CAGAAGTTCACAGATATGGTAGCCACGGCCAACCGTCAGACCTTTGTCAACTCGGCC 370
ờ	103	11eLysPheLeuargGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyrProGly 122
qq	371	ATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACTTGACTGGGGGGTACCCAGGA 430
γ̈́ο	123	SerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGluMetArg 142
qq	431	
ò	143	GluAlaPheGluGluAlaIleGluSerAsnArgProArgLeuMetValThrAlaAla 162
qq	491	AATGCCTTCCAGGAGGCCCAGACCTCAGGAAGGAACGCCTTCTTCTGAGTGCAGGG 550
ò	163	ValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLysTyr 182
οp	551	GTICCAGCTGGGCAGACCTATGTGGATGCTGGATACGAGGTGGACAAAATCGCCCAGAAC 610

Example 1; Column 23-28; 26pp; English

cocation/Qualifiers

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GTGCCCTACATCTTCCGGGACAACCAGTGGGCTTTGATGATGATGTGGAGGGTTCAAA 1024
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TATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAGAATCCAGGATCAGAAG 964
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         AspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeulleValGly
                                                                                                          791 ATGCCTACCGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTGGGGGCC
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                                                                         PheProGluTyrGlyHisThrPhelleLeuArgAsnProSerAspAsnGlyIleGlyAla
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                                                    GluAgnSerProLeuTyrLygTyrProThrGluThrGlySerAsnAlaTyrLeuAsnVal
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83 AlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThrSerVal 102
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                                                                                                                                                            A cDNA clone (AAT50833), designated chi.50, codes for a 50 kDa human chitinase (AAW08584) that is stable to many proteases, active at pH 3-8 and up to 50 deg, and stable in the circulation. Clones chi.50 and chi.39 (see also AAT50834) were isolated from a human macrophage CDNA library using as probe a partial clone obtd. using primers type I Gaucher disease patient. The 2 cDNA clones are the result of alternative splicing of RNA. Chitinase nucleic acid can be used for large-scale prodn. of recombinant human chitinases, or can be incorporated into a gene therapy vector to treat or prevent infection by chitin-contg. pathogens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro
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new numan chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1643 BP; 364 A; 490 C; 442 G; 347 T; 0 other;
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Matches:
Conservative:
Mismatches:
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                                                                                                                      Claim 2; Page 39-40; 58pp; English
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Chitinase; chitotriosidase; chitin; infectious disease; gene therapy; vaccine; lysosomal lipidosis; Gaucher; 8 disease; leishmaniasis; sacciocidosis; X-linked adrenoleukodystrophy; multiple sclerosis; drug delivery; cosmetics; food; ss.

Homo sapiens

Human chitinase cDNA clone chi.50

24-MAR-1997 (first entry)

AAT50833;

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AAT50833 standard; cDNA; 1643

RESULT 9 4AT50833

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JS-10-004-219B-9 (1-452) x AAV10436
                    AAV10436 standard; cDNA; 1656
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                                       AAV10436
RESULT 10
        AAV10436
ID AAV1
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                             1156 CGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCCAGAGCTTGAAGTTCCAAAA 1215
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                                                 SerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGluMetArg 142
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                                                                                                     243 PheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla
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                                                                                                                                                                                                                                                                                                                                               ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr
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                                                                                                                                                                                                                  203 GluAsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeuAsnVal
                                                                                                                                                                                                                                                            223 AspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuileValGly
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                    LeuAspPhelleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThrGly
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This sequence encodes a novel human chitinase isolated from clone MO-13B. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridiation assays and to detect generic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents,
                                                 Chitinase, human, fungal infection, immunogen, diagnosis, treatment, Gaucher's disease, transgenic, detection, hybridisation, antifungal, rheumatoid arthritis, overexpression, extracellular matrix, ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nucleic acids encoding human chitinase – useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                   27.89
/*tag= b
90.1424
/*tag= c
/product= chitinase
/note= "from clone MO-138"
                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9; Page 42-44; 63pp; English
Human chitinase clone MO-13B cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and thus of their side effects.
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1295.50
66.89%
51.32%
51.97%
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Best Local Similarity:
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                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-JUN-1997;
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1170 CGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCCAGAGCTTGAAGTTCCAAAA 1229
                                                                                                                                                                                 This is the nucleotide sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear home polymer of beta-1,4-linked N-acetyJglucosamine residues). Chitinase fragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel chitin-binding fragments of human chitinase used to treat fungal
                                                                                                                                                                 416 ValAlaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHis
                                         -----ProSerGluProValThrThrProProGlySerGlySerGlyGlySer
                                                                                                      396 SerGlyGlySerSerGlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro
                                                                                                                                 1254 CATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGATGGGCTCTATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                            chitin; fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; ds.
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/product= Human_Chitinase
27.89
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/note= "Mature peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 1; Page 59-62; 83pp; English.
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                                                                       1230 ccaggrcagcccrcrcaaccr
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/note= "Signal
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P-PSDB; AAY42426.
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||||||||||
grGcCctaCatcrtccGGGACAACCAGTGGGTGGGCTTTGATGATGAGAGAGCTTCAAA
               CTGGTCTGCTACTTCACCAACTGGGCCCAGTACAGACAGGGGGAGGCTCGCTTCCTGCCC
                                                                           LysAsnArgAsnSerLysLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPheGlyThr
                                                                                                                                                                                                                                                              SerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGluMetArg
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LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro
                                                            23 AspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn
                                                                                                                       AsnGluIleThrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsnAspLeu
                                                                                                                                                                                                      396 ATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCAGGA
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detection and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungi. Fungal infection treated include candidiasis, aspergillosis, coccidioidomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, mucormycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, spordarichosis, and dermatophytoses.

Chitin can be degraded by the enzyme chitinase. Use of whole chitinase problematic In view of the increasing incidents of life- threatening problematic. In view of the increasing incidents of life- threatening cungal infection in e.g. immunocompromised individuals, there exists a comed for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
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                                                                                                                                                                                                                                                                                                                 Seguence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                                                                                                                                                                                                                                                      9.53e-107
1295.50
66.89%
51.32%
51.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
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                                                                                                                                                                                                              valproтyralaTyrLysAlaAgnGluTrpLeuGlyTyrAgpAsnIleLysSerPheSer 322
                                                                                                                                                                                                                                                                             323 VallysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp 342
                                                                                                                                                                                                                                                                                                                                        LeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSerThrLeu 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         416 ValAlaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHis 435
                                                                                         ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr 282
                                                           816 ATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTGGGGGCC 875
                                                                                                                        TyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;
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TATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAGAATCCAGGATCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerGlyGlySerSerGlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro
GATGCTGCTGCAACAGTGGCTGCAGAAGGGGACCCCTGCCAGCAAGCTGATCCTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1254 CATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGATGGGGCTCTATCCC
                              PheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla
                                                                                                                                                                                                                                                                                                                                                                                                     363 AsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspVal------
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27..1427
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/product= "Human mature chitinase from clone pMO-13B"

Sequence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other;

Alignment Scores:

Pred. No.:

1295.50

Matches:

234

Score:

6.89\$

Conservative:

Best Local Similarity:

51.32\$

Mismatches:

130

Query Match:

51.97\$

Gaps:

3

US-10-004-219B-9 (1-452) x AAD03760 (1-1656)

ć	е	LeulleCysTyrPheThrAanTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro 22
qq	96	96 CTGGTCTGCTACTTCACCAACTGGGCCCAGTACAGAGGGGGAGGCTCGCTTCCTGCCC 155
'n	23	23 AspAspIleAsnProCysLeuCysThrHisLeulleTyralaPheAlaGlyMetGlnAsn 42
qq	156	AAGGACTTGGACCCCAGCCTTTGCACCCACCTCATCTACGCCTTCGCTGGCATGACCAAC 215
ò	43	AsnGlulleThrIhrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsnAspLeu 62
qa	216	116 CACCAGCTGAGCACCACTGAGTGAGGAGACTCTCTACCAGGAGTTCAATGGCCTG 275
ò	63	63 LysAsnArgAsnSerLysLeuLysThrLeuLeuAlaileGlyGlyTrpAsnPheGlŷThr 82
qq	276	AAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCAGCACT 335
γ̈́ο	83	AlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThrSerVal 102
qa	336	336 CAGAAGTICACAGATATGGTAGCCACGGCCAACAACGCGTCAGACCTITGTCAACTCGGCC 395
È	103	103 IleLyaPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyrProGly 122
qq	396	

g 142 C 515	a 162 G 575	r 182 C 635	Y 202 A 695	1 222 755	y 242 C 815	a 262 C 875	r 282 935	u 302 : G 989	r 322 A 1049	p 342 C 1109	u 362 1169	- 378 ⁻ A 1229	r 395 G 1253	o 415 C 1313	в 435 С 1373		
PheThrValLeuValLysGluMetArg TTCACAACCTGGTACAGGACTTGGCC	ArgProArgLeuMetValThrAlaAla 	TyrglulleProgluLeuSerlysTy1 :: \TACGAGGTGGACAAATCGCCCAGAAC	uHisGlySerTrpGluGlyTyrThrGly 	######################################	AlaProAlaGluLysLeuIleValGly 	ganproserAspasnGly1leGlyala ::: :TCCTCATCAGACACCAGAGTGGGGGCC	ThrargGlnalaGlyPheTrpalaTyr :::::: accaaggaaggaTgcTggcCTAC	ThrGluValTrpAspAlaSerGlnGlu ::: AccaAacaGaGaaTCCAGGATCAGAAG	uGlyTyrAspAsnIleLysSerPheSex :: : 3GCTTTGATGATGTGGAGAGCTTCAAA	PhedlydlyAlaMetIleTrpAlalleAsp ::: TGGGCGGGCCATGGTCTGGGCACTGGAC	\alpha \text{1} \text{2} \text{2} \text{3} \text	ThralaProAspVal	ProSerGluProValThrThrProProGlySerGlySerGlyGlyGlySer 395 CCCTCTGAACCTGAG 1253	AlaAspLysAlaAspGlyLeuTyrPrc :CAGGGCAAAGCTGATGGGCTCTATCCC		rcysaancyscysaantro 451 . :crgcaaargcrgcaccrgs 1421	
SerargdlyserProProdlnAsplysHisLeuPheThrValLeuValLysGluMetArg	GlualapheGluGluGluAlaIleGluSerAsi ::: aarGcCrrccaGcaGGaAGCccaGaCcrcaGG	ValalaGlyGlyIleSerAsnIleGlnAlaGl)	LeuaspPheileHisValMetThrTyrAspLeu crgGatttTGTCAACCTATGGCCTACGACTT	GluasnSerProLeuTyrLysTyrProThrGlu 	223 ABFYJTValMetAsnTyTTFDLYSASnAnGlYAlaProAlaGluLysLeulleValGly 242 	PheProGluTyrGlyHisThrPhelleLeuArgAsnProSerAspAsnGlylleGlyAla	ProThrSerGlyAspGlyProAlaGlyAlaTy: ::: 	TyrGluIeCygThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu ::: ::::: TATGAAGTCTGCTGGAAGGGGGCCACCAACAGAGAATCCAGATCAGAAG	ValProTyralaTyrbysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer GTGCCCTACATCTTCCGGGACAACCAGTGGGGGGCTTTGATGATGATGTGGAGGGTTCAAA	ValLysalaginTrpLeutysginAsnAsnPhe 	LeuaspasphethrdlyserPhecysaspdli Tagaigacrifigccggcrictccigcaacca	AsnLysAlaLeuGlyIleSerThrGluGlyCy: :: :: cgGCAGGAACTGAGTCTTCCATACTTGCCTTC7	9ProSerGluProValThrThrPro 	SerGlyGlySerSerGlyGlySerGlyPheCyterGlyPheCyterGlyPheCyterGlyBerGlyGlyBheCyter	ValAlaAspAspArgAsnAlaPheTrpGlnCvr	CysGlnalaGlyLeuvalPheAspThrSerCytel	standard; cDNA; 1656 BP.
123	143	163 576	183	203	223	243	263	283	303	323 1050	343	363	C. E	396	416	436	JLT 13 57381 ABL57
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Sequence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other;
                                                                                           (ICOS-) ICOS CORP
                               Homo sapiens
                                                                 US6372212-B1
                                                                              16-JUN-1997;
                                                                                     14-JUN-1996;
12-AUG-2002
                                                  sig_peptide
                                                        mat peptide
                                                                        16-APR-2002
                                                                                                 Gray PW;
                                                                                              THE SXXXXXXX
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Alignment Scores:

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53e-107
                                          Percent Similarity:
Best Local Similarity:
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C encoding human chitinase (see ABB7629). The clone was isolated from a cDNA library prepared from peripheral blood mnocyte-derived macrophages using a probe based on human chitinase clone MO-218 (see ABL57380). The 2 clones contain a single nucleotide difference in the coding region, causing manno acid position 81 of the mature protein to be either serime or glycine. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against pathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products, which are expected to be useful as products for treating fungal infections of for the development of such products. Human chitinase has a synergistic effect on the actions of other chitinase has a supergistic effect on the actions of cherr fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidiasis, aspergillosis, coccidioidomycosis, cryptococcosis, chromoblastomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, specialicides, mucormycosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Co-administering chitinase to improve the effectiveness of fungididal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis -
                                                                                                                               Chitinase; enzyme; human; fungicide; antifungal; infection; acadidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytoses and Pneumocystis infections (all claimed). In particular, the fungal infection involves Candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 1; Column 31-34; 26pp; English
                                                                                                                                                                                                                                                                                                                 cocation/Qualifiers
                                                                                     Human chitinase cDNA clone MO-13B.
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P-PSDB; ABB76292.
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                                                                                                                                                                             ValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLysTyr 182
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                                                                                                                                                                                                                                                                                                             ValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer
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1656
234
71
130
21
                                 Conservative:
Mismatches:
Indels:
 Length:
Matches:
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               1295.50
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51.32%
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93 313 VallyahladinTrpleniyaGinkanAnnehediyGiyahlawerileTrphAlliaeAp 1050 AccANGCTCACCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
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253 AAGGACTTGGACCCCAGCCTTTGCACCCACCTCATCTACGCCTTCGCTGGCATGACCAAC 312
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chitotriosidase protein in a host comprising carrying out nucleic acid amplification, and (2) a method of detecting altered expression of a chitotriosidase protein in a host comprising contacting a bodily sample with an antibody. Chitotriosidase can degrade extracellular matrix substrates with a similar carbohydrate structure to chitin. It can be used to develop products which can be used in the diagnosis and treatment of tissue remodelling disorders such as rheumatoid arthritis or atherosclerosis. Chitotriosidase nucleic. acids can be used in the recombinant production of the enzyme, and as probes or primers in diagnostic
                                                                                                                                                       C; 474 G; 363 T; 1 other;
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Matches:
Conservative:
Mismatches:
Indels:
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1294.50
66.89%
51.32%
51.93%
                                                                                                                                                       Sequence 1768 BP; 401 A; 529
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Best Local Similarity:
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AAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGCACT 321
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                                                                                                                                                                                                                                                                                       A cDNA clone (AAT50834), designated chi.39, codes for a 39 kDa human chitanse (AAW06584) that is stable to many proteases, active at pH 3-8 and up to 50 deg, and stable in the circulation. Clones chi.39 and chi.50 (see also AAT50813) were isolated from a human macrophage cDNA library using as probe a partial clone obtd. using primers (see also AAT50815-36) based on a chitotriosidase purified from a type I Gaucher disease patient. The 2 cDNA clones are the result of alternative splicing of RNA. Chitinase nucleic acid can be used for large-scale prodn. of recombinant human chitinases, or can be incorporated into a gene therapy vector to treat or prevent infection by chitin-contg. pathogens.
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                                                                                                                                                                    new human chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    other;
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Matches:
Conservative:
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                                                                                                                                                                                                                                                          Claim 2; Page 42-43; 58pp; English
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1286.00
66.52%
51.17%
51.58%
                      95US-0486839
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                                                                                                                              WPI; 1997-118698/11.
P-PSDB; AAW08585.
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Best Local Similarity:
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ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr 282
                                                                                                                            TyrGlulleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
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Search completed: June 29, 2003, 21:26:40 Job time : 280.065 secs Appli Appli Appli Appli Appli Appli Appli Appli Appli

Scoring table:

Searched:

Title: Perfect score:

Sequence:

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Patent No. 6200951
GENERAL INPORMATION:
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: ADDRESSEE:
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TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION TO THE SEQ ID NO: 1: SEQUENCE CHARACTERISTICS:
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Copyright (c) 1993 - 2003 Compugen Ltd.
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US-08-486-839-3
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US-09-039-188A-3
US-09-267-574-3
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US-09-151-011-5
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Listing first 45 summaries
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Result, Š.

Database :

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Sequence 1, Application US/08877599
Patent No. 6372212
Patent No. 6372212
TEREAL INFORMATION:
APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & STREET: 6300 Sears Tower, 233 South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIREL: O'SOUGH MACKET, 233 SOUGH MACKET DILVE
COUNTRY: United States of America
COMPRY: United States of America
ZIP: 6606-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: BATCHIN Release #1.0, Version #1.25
SOUTHARE: PAPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UN-1996
ATTORNEY/AGENT INFORMATION:
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CLASSIFICATION:
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Conservative:
Mismatches:
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1301.50
67.11%
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65.1399
                 STRANDEDNESS: single
STRANDEDNESS
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FRATURE:
NAME/KEY: CDS
LOCATION: 2.1399
FRATURE:
NAME/KEY: mat_pe
; LOCATION: 65.1.
US-09-039-198A-1
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Best Local Similarity:
Query Match:
DB:
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                                                                            TyrGlulleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
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911 TATGAAGTCTGCTCCTGG-----AAGGGGCCACCAAACAGAAGAATCCAGGATCAGAAG 964
1349 TGCCCGACAGGCCTGGTGTTCAGCAACTCCTGCAAATGCTGCACCTGG 1396
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REGISTRATION NUMBER: 33,547
REFERNICE/DOCKET NUMBER: 27866/33994
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
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1229 CATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGATGGGCTCTATCCC 1288
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                                                                                                                                              323 ValiysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp 342
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                                                                       TyrGlulleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
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911 TATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAAATCCAGGATCAGAAG 964
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                731 GATGCTGCTGTGCAACAGTGGCTGCAGAAGGGGACCCCTGCCAGCAAGCTGATCCTTGGC 790
                                                   243 PheproGluTyrGlyHisThrPhelleLeuArgAsnProSerAspAsnGlyIleGlyAla
                                                                                                                      ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRACMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
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ORGANISM: Homo sapiens
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, LOCATION: (65)..(1399)
US-09-267-574-1
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NAME/KEY: CDS
LOCATION: (2)..(1399)
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Conservative:
Mismatches:
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INFORMATION FOR SEO ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 1636 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: cDNA
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1301.50
67.11%
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LOCATION: 2..1399
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323 ValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp
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SOCTWA
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COUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATURE SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Ver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/08486839
Patent No. 5928928
GENERAL INFORMATION:
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350 Jericho Turnpike
                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Jericho
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STREET: 35
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  131 AAGGACTTGGACCCTTTGCACCCACCTCATCTACGCCTTTGCTGACGAAC 190
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TATGAAGTCTGCTCCTGG-----AAGGGGCCACCAACAGAGAATCCAGGATCAGAAG 964
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGluMetArg 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLysTyr 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuIleValGly 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                243 PheproGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr 282
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                                                                                                                                                                                                                                                                                              LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AsnGlulleThrTheGluTrpAsnAspValThrLeuTyrLysAlaPheAsnAspLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       191 CACCAGCTGAGGACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAATGGCCTG
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                        Length:
Matches:
Conservative:
Mismatches:
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                                                                                                                                          Indels:
         6.7e-121
1301.50
67.11%
51.54%
52.21%
                                                                                Percent Similarity:
Best Local Similarity:
Alignment Scores:
Pred. No.:
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                                                                                                                                             Query Match:
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1229 CATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGATGGCCTCTATCCC 1288
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               396 SerGlyGlySerSerGlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  416 ValAlaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHis 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: A human chitinase, its recombinant TITLE OF INVENTION: production, its use for decomposing chitin, its use TITLE OF INVENTION: in therapy or prophylaxis against infection diseases. CORRESPONDENCE ADDRESS:
                                                                   LeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSerThrLeu 362
1025 ACCAAGGTCAGCTATCTGAAGCAGAAGGGACTGGGCGGGGGCCATGGTCTGGGCACTGGAC
                                                                                                                                                                                                      363 AsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspVal-----
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· us-10-004-219b-9.rni

Pred. No.: 6.74e-121 Score: 1301.50 Percent Similarity: 67.11# Best Local Similarity: 51.54# Query Match: 2	21 Length: 1643 Matches: 235 Conservative: 71 Mismatches: 129 Indels: 3	323 ValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp
US-10-004-219B-9 (1-452) x US-08-48 Qy	6-83 TrpA TGGG	1096 363 1156
Oy 23 AspAspIleAsnProCys ::::: Db 142 AAGGACTTGGACCCCAGG	AsphapllehanProCysLeuCysThrHisLeulleTyrhlaPheAladlyMetGlnAsn 42 ::::::	Qy 379ProSerGlubroValThrThrProProGlySerGlyGlyGlyGlySer 395
43		Oy 396 SerglyGlySerSerglyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro 415
Oy 63 LygasnargesnSerLyg 	LygasnargasnSerLygLeuLysThrLeuLeuala11eG1yG1yTrpasnPheG1yThr 82 	416 ValalaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlHHis 435 1300 AATCCTCGGAACGGTCTACAGCTTCTACAGCTGCAGCGGCGGCTGTTCCAGCAAAGC 1359
Qy 83 AlaProPheThrThrMet	AlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThrSerVal 102 	Oy 436 CYSGINAIACIYLENVAIPIRASDINESSERCYSABRININ 451
Oy 103 IleLysPheLeuArgGlr :::	IleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyrProGly 122 	KESULT 5 US-09-11-011-3 ; Sequence 3, Application US/09151011 ; Patent No. 6057142
Oy 123 SerArgGlySerProPro	SerArgGlySerProProGlnAspLy8HisLeuPheThrValLeuValLysGluMetArg 142 ::: AGCCAGGGAGCCCTGCCGTAGACAAGGAGCGCTTCACAACCCTGGTACAGGACTTGGCC 501	GENERAL INFORMATION: APPLICANT: TITLE OF INVENTION: A Human Chitinase, Its Recombinant TITLE OF INVENTION: Production, Its Use For Decomposing Chitin, Its Use in
Oy 143 GlualapheGluGluGluGluGluGluGluGluGluGluGluGluGluG	GlualaPheGluGluAlaIleGluSerAsnArgProArgLeuMetVaIThralaAla 162	Si la .
Qy 163 ValAlaGlyGlyIleSer	ValalaglyglytleSerasnIleGlnAlaglyTyrGluIleProgluLeuSerLysTyr 182 	5 E
Oy 183 LeuaspheileHisVal ::::::: 	LeuaspPheIleHisValMetThrTyraspLeuHisGlySerTrpGluGlyTyrThrGly 202 	; CDP: 11791 ; COMPUTER FRADABLE FORM: ; MEDIUM TYPE: Floppy disk ; COMPUTER: IBM PC compatible
Oy 203 GludanSerProLeuTyz	GlubenSerProLeuTyrLysTyrProThrGluThrGlySerbenblaTyrLeubanVal 222	; OPERATING SYSTEM: PC-DOS/MS-DOS ; SOFTWARE: PatentIn Release #1.0, Version #1.30 ; SOFTWARE: ; CURRENT APPLICATION DATA:
Qy 223 AspTyrValMetAsnTyz 742 GATGCTGCTGTGCAACAC	ASPTyrValMetasnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuTleValGly 242 	; APPLICATION NUMBER: US/09/151,011 ; FILING DATE: 10 - September - 1998 ; ATTORNEY/AGENT INFORMATION: ; NAME: Morriss, Robert C.
Qy 243 PheProGluTyrGlyHie	PheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla 262	REGISTRATION NUMBER: 42,910 ; REFERENCE/DOCKET NUMBER: 294-32 DIV ; TELECOMUNICATION INFORMATION: ; TELEPHONE: (516) 822-3550
Qy 263 ProThrSerGlyAspGly	ProThrSerGlyAgpGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyr 282 :::	; INFORMATION FOR SEQ. 15 INFORMATION FOR SEQ. 15 INFORMATION FOR SEQ. 15 INFORMATION FOR SEQ. 15 ILENGTH: 1643 base pairs
Oy 283 TyrclullecysThrPhe :: ::: 922 TATGAGTCTGCTCCTGG	######################################	; TYPE: nucleic acid ; TYPE: nucleic acid ; TOPOLOGY: unknown ; MOLECULE TYPE: cDNA
Oy 303 ValProTyrAlaTyrLy6	ValProTyralaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer 322	-011-3
ם ה	GGACAACCAGIGGGCIIIGAIGAGGAGGCIIKAAA 1035	Alignment Scores: 6.74e-121 Length: 1643

1301.50 Watches:		RESULT 6 US-09-343-623-3 Sequence 3, Application US/09343623 Sequence 3, Application US/09343623 Sequence 3, Application US/09343623 Sequence 3, Application US/09343623 GENERAL INFORMATION: TITLE OF INVENTION: TITLE OF INVENTION: A human chitinase, its recombinant TITLE OF INVENTION: in therapy or prophylaxis against in NUMBER OF SEQUENCES: TITLE OF INVENTION: In therapy or prophylaxis against in NUMBER OF SEQUENCES: ADDRESSEE: Hoffmann & Baron STREET: ADDRESSEE: Hoffmann & Baron STREET: New York CITY: Jesicho STATE: New York COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0, Version #1.30 SOFTWARE: PatentIn Release #1.0, Version #1.30 SURFWARE: PATENTION DATA:	APPLICATION NUMBER: US/09/343,623 FILING DATE: PRIOR APPLICATION DATA: APPLICATION NUMBER: US/08/486,839 FILING DATE: ATORNEY/AGENT INFORMATION: NAME: BATON, ROHAId J. REGISTRATION NUMBER: 29,281 REGISTRATION INFORMATION: FILIEDHONE: (516) 822-3550 FILIEDHONE: (516) 822-3550 FILIEDHONE: G16) 822-3550 FILIEDHONE: G16) 822-3550 FILIEDHONE: G16) 822-3562 FILIEDHONE: G16) 822-3563 FILIEDHONE: G16] 822-3563 FILIEDHONE: G1
### 1301.50 Matches: 133 Matches: 131 Mismatches: 131 Gaps: 2134 Mismatches: 131 Gaps: 2134 Mismatches: 131 Gaps: 2134 Mismatches: 213 Match: 213 Mismatches: 213			
	1301.50 Matches: 235 Conservative: 71 Matches: 129 Conservative: 71 Mismatches: 129 S2.21\$ Mismatches: 21 21 Mismatches: 22 21 Mismatches: 22 21 Mismatches: 22 22 Mismatches: 23 Aspertation Mismatches: 24 Mismatches: 24 Mismatches: 25.21\$ Mismatches: 25 Mismatches	IletyspheleuargdlnTyrGlyPheaspGlyLeuaspLeuaspTrpGluTyrProGly IletyspheleuargdlnTyrGlyPheaspGlyLeuaspLeuaspTrpGluTyrProGly IletyspheleuargdlnTyrProGly IletyspheleuargdlnTyrProGly IletyspheleuargdlnTyrProGlyCaracacatacacacacacacacacacacacacacacacac	AspTyvalMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuIleValGly

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TTGAAGTTCCAAAA 1215
                                                                                                                                 ABDGIVLEUTYrPro 415
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grcrgggcacrggac 1095
                          -----GAG 1239
                                                                                                                                                                  chrTyrGlnGlnHis 435
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:::CTTCCAGCAAAGC 1359
                                                                                               erGlyGlyGlySer 395
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TGG 1407
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GlyGlyalaMetIleTrpalaIleAsp 342
                              GlyLysPheProLeuThrSerThrLeu 362
                                                                                                                              AlaAspLysAlaAspGlyLeuTyrPro 415
                                                                                                                                                             ThralaProAspVal----- 378
                                                                                                               -----GAG 1239
                                                                                              ProGlySerGlySerGlyGlyGlySer 395
                                                                                                                                                                                             AsnCysCysAsnTrp 451
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rs Tower
                                                                                                                                                                                                                                                                                      ING FRAGMENTS
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ValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSer 322
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
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PRIOR APPLICATION DATE:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-JUN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Heien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELEPHONE: 312/474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                1230 CCAGGTCAGCCCTCTGAACCT
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TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1656 base pair
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Mismatches:
Indels:
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                                                                      Length:
Matches:
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Best Local Similarity:
Query Match:
DB:
LOCATION:
                                                     Alignment Scores:
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US-09-039-198A-3
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Patent No. 6372212
GENERAL INFORMATION:
APPLICANT: Gray, Patrick W.
ATTILE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 6300 Sears Tower, 233 South Wacker Drive
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LOCATION: (90)..(1424)
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                                                                                                                      Length:
Matches:
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MOLECULE TYPE: CDNA
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Best Local Similarity:
Query Match:
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US-08-877-599-3
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283 TyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
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936 TATGAAGTCTGCTCCTGG-----AAGGGGCCACCAAACAGAGAATCCAGGATCAGAAG 989
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Patent No. 6399571
GENERAL INFORMATION:
APPLICANT: Gray, Parrick W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS;
FILE REPRENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12;
EARLIER FILING DATE: 1998-03-12;
SAFLIER FILING DATE: 1998-03-12;
SOFTWARE: PAPLICATION NUMBER: 09/039,198
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Conservative:
Mismatches:
Indels:
Gaps:
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1170 CGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCAAAA 1229
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES:
                                                                                            379 -----ProSerGluProValThrThrProProGlySerGlySerGlyGlySer 395
                                                                                                                                                                                                                                           416 ValAlaAspAspArgAsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHis 435
                                                                                                                                                                  396 SerGlyGlySerSerGlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrPro
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240
72
134
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STATE: New York
COUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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Matches:
Conservative:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/486,839
FILING DATE: 07 - June - 1995
ATTORNEY/AGENT INPORMATION:
NAME: Baron, Ronald J.
REGISTRATION NUMBER: 29,281
TELEPRONEY/CATION INPORMATION:
TELEPRONEY/CATION INPORMATION:
TELEPRONEY: (516) 822-3550
TELEPAX: (516) 822-3550
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 5, Application US/08486839
Patent No. 5928928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Hoffmann & Baron STREET: 350 Jericho Turnpike
                                                                                                                                 1230 CCAGGTCAGCCCTCTGAACCT
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1286.00
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TELEFAX: (516) 822-3582
INFORMATION FOR SEQ ID NO: 5:
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51.178
51.588
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LENGTH: 1713 base pair
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TOPOLOGY: un
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DB:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLysTyr 182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243 PheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIleGlyAla 262
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                                      LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro
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                                                                                                               23 AspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn
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US-10-004-219B-9 (1-452) x US-09-267-574-3 (1-1656)
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-----GlyIleSer 369

363 AsnLysAlaLeu----

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COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                         1452 AGCAACTCCTGCAAATGCTGCACCTGG 1478
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Morries, Robert C.
REGISTRATION NUMBER: 42,910
REFERENCE/DOCKET NUMBER: 294-32 DIV
TELECOMUNICATION INFORMATION:
TELEPHONE: (516) 822-3550
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 1713 base pairs
                                                                                                                                                                                                                                                                            443 AspThrSerCysAsnCysCysAsnTrp 451
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APPLICATION NUMBER: US/09/151,011
FILING DATE: .10 - September - 1998
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: New York COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Hoffmann & Baron, LLP
STREET: 6900 Jericho Turnpike
                                                                                                                                                                                                                                                                                                                                                                  Sequence 5, Application US/09151011
Patent No. 6057142
GENERAL INFORMATION:
APPLICANT:
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STRANDEDNESS: unknown
TOPOLOGY: unknown
WOLECULE TYPE: CDNA
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Syosset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 11791
                                                                                                                                                                                                                                                                                                                                                    US-09-151-011-5
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TATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAACAAGAGAATCCAGGATCAGAAG 975
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                                                                                                                                                                        203 GluAsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeuAsnVal 222
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             AlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThrSerVal 102
                                                                                                                                                                                                                                                322 CAGAAGTICACAGATATGGTAGCCACGGCCAACACCGTCAGACCTTTGTCAACTGGGCC 381
                                                                                                                                                                                                                                                                                                                                                    SerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGluMetArg 142
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                                                                                                                                              202 CACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAATGGCCTG 261
LeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLysPro 22
                                                      23 AspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn 42
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TITLE OF INVENTION: A Human Chitinase, Its Recombinant
TITLE OF INVENTION: Production, Its Use For Decomposing Chitin, Its Use in
TITLE OF INVENTION: Therapy or Prophylaxis Against Infection Diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSES: Hoffmann & Baron, LLP
1156 CGGCAGGAACTGAATGGGTAAAGCCTTAACTGCCTGTCACATGTGAGGCCAGGTGTTGCC 1215
                                                                                                                                                                                                 1275 GAAGTTCCAAAACCAGGTCAGCCCTCT---GAACCTGAGCATGGCCCAAGCCCTGGACAA 1331
                                                                                                                                                                                                                                                                                     1332 GACACGTTCTGCCAGGGCAAAGCTGATGGGCTCTATCCCAATCCTCGGGAACGGTCCAGC 1391
                                                                                                                                                                                                                                                                                                                                                 403 SerGlyPheCysAlaAspLysAlaAspGlyLeuTyrProValAlaAspAspArgAsnAla 422
                                               370 ThrGluGlyCys---ThrAlaProAspValProSerGluProValThrThrPro----- 386
                                                                                                                                                  ------ProglySerGlySerGlyGlyGlySerSerGlyGlySerSerGlyGly 402
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Conservative:
Mismatches:
Indels:
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Best Local Similarity:
Query Match:
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us-10-004-219b-9.rni

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ADDRESSEE: SPENSLEY HORN JUBAS & LUBITZ
STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1452 AGCAACTCCTGCAAATGCTGCACCTGG 1478
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4, Application PC/TUS9407754
GENERAL INFORMATION:
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MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: YKL-40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 34,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 1681 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                            363 AsnLysAlaLeu--
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STATE: CALIFORNIA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrGlulleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGlnGlu 302
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                                                                                                                                                                          CACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAATGGCCTG 261
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| AAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGCACT 321
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                                                                                                                                                                                                                      23 AspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn 42
                                                                                                                                                                                                                                                                                       43 AsnGlulleThrThrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsnAspLeu 62
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                              Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                           US-10-004-219B-9 (1-452) x US-09-343-623-5 (1-1713)
               Length:
                                                                                             Gaps:
           2.57e-119
1286.00
66.52%
51.17%
51.58%
                                           Percent Similarity:
Best Local Similarity
Alignment Scores:
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1036 ACCAAGGTCAGCTATCTGAAGCAGAAGGGACTGGGCGGGGCCATGGTCTGGGCACTGGAC 1095
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323 ValiysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIleAsp 342
                                                                                                                                             343 LeuaspaspheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSerThrLeu 362
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                                                                                                                                                                                                                                                                                                                                                                                                                                          370 ThrGluGlyCys---ThrAlaProAspValProSerGluProValThrThrPro-----
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CURRENT APPLICATION DATA:
FILING DATE: 08-JUL-1994
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; NAME/KEY: CDS
; LOCATION: 135...1681
US-08-581-527-4
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ZIP: 02110-2804
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAACACCTGGATTTCATTAGCATCATGACCTACGATTTTCATGGCGCCTGGCGTGGGACC 716
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                                                                                                                                                                                                                                                             241 ValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIle 260
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| ATGAAGGCCGAATTTATAAAGGAAGC---CAGCCAGGAAAAAGGAGCTCCTGCTCAGC
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                                                                                                                    Conservative:
Mismatches:
Indels:
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                                                                                   Length:
Matches:
                                                                                8.09e-88
971.50
66.32$
48.07$
CDS
135..1681
                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
; NAME/KEY:
; LOCATION:
PCT-US94-07754-4
                                                                   Alignment Scores:
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Sequence 4, Application US/08581527
Sequence 4. Application US/08581527
Sequence 10. 3935798
GENERAL INFORMATION:
APPLICANT: Price, Paul A.
APPLICANT: Price, Paul A.
APPLICANT: Of INVENTION: ASSAY FOR YKL-40 AS A MARKER
TITLE OF INVENTION: FOR DEGRADATION OF MAMMALIAN CONNECTIVE TISSUE MATRICES
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson, P.C.
STREET: 225 Franklin Street
CITY: Boston
STATE: MA
COUNTRY: USA
TIONAL OF ALL O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1191 AATGCCATCAAGGATGCACTCGCTGC-AACGTAGCCCTCTGTTCTGCACACAGCACGGGG 1249
954 GCCTACTATGAGATCTGTGACTTCCTCCGC---GGAGCCACAGTCCATAGAACCCTCGGC 1010
                                                                                                                                                                                                                                                                                          321 PheSerValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetILeTrpAla 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 SerThrLeuAsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspValPro 379
                                                                                                 301 GlnGluValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSer
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COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEC for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/581,527
FILING DATE: 17-APR.1996
CLASSIFICATION DATA:
APPLICATION NUMBER: W095/01995
FILING DATE: 19-JAN.1995
APPLICATION NUMBER: W095/01995
FILING DATE: 09-JUL.1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1250 GCCAAGGATGCCCCGTCCCGTCTGGC 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380 SerGluProValThrThrProProGly 388
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REGISTRATION NUMBER: 29,066
REFERENCE/DOCKET NUMBER: 07341/011001
TELECOMUNICATION INFORMATION:
TELEPHONE: 617-542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 617-542-5070
TELEPAX: 617-542-8906
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1681 nucleic acids
TYPE: nucleic acids
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA
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MEDIUM TYPE: Diskett
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us-10-004-219b-9.rni

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1011 CAGCAGGTCCCCTATGCCACCAAGGGCAACCAGTGGGTAGGATACGACGACCAGGAAAGC 1070
                                                                                                                             360 SerThrLeuAsnLysAlaLeuGlyIleSerThrGluGlyCysThrAlaProAspValPro 379
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Adamou, Julie
APPLICANT: Kirkpatrick, Robert
APPLICANT: Rosenberg, Martin
TITLE OF INVENTION: 1
CORRESPONDENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation
STRET: 709 Swedeland Road
CITY: King of Prussia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1433
181
82
122
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Conservative:
Mismatches:
                                                                                                                                                                                                                                                                1250 GCCAAGGATGCCCCGTCCCCGTCTGGC 1276
                                                                                                                                                                                                                             380 SerGluProValThrThrProProGly 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Han, William T
RESISTRATION NUMBER: 34,344
REFERRNCE/DOCKET NUMBER: ATGS0017
TELECHONINICATION INFORMATION:
TELEPHONE: 610-270-5219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FABLESEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/694,915
FILING DATE:
                                                                                                                                                                                                                                                                                                              US-08-694-915-1
; Sequence 1, Application US/08694915
; Patent No. 5811535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.07e-86
950.50
66.08%
45.48%
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TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 19406-2799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
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Pred. No.:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysTyrLeuAspPhelleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyr 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrGlyGluAsnSerProLeuTyrLysTyrProThrGluThrGlySerAsnAlaTyrLeu 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 ValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsnGlyIle 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261 GlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrp 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaTyrTyrGluIleCygThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSer 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnGluValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSer 320
                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyThrAlaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThr 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerVallleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyr 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAGGCCATCACAGTCCCCTCAGGCGAGGTCAGGAGGATGCAAGTCCTGACAGATTCAGC 776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AsnValAspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLysLeuIle 240
                                                                                                                                                                             255 AGCÁACGATCACÁTCGACÁCCTGGGAGTGGAATGATGTGACGCTCTACGGCATGCTCAAC 314
                                                                                                                                                                                                                                                                                                                                                                                                  121 ProGlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGlu 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MetArgGluAlaPheGluGlnGluAlaIleGluSerAsnArgProArgLeuMetValThr 160
                                                                                                                                                                                                                                                                                                              GlnAsnAsnGluileThrThrIleGluTrpAsnAspValThrLeuTyrLysAlaPheAsn 60
                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                21 LysProAspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMet 40
                                                                                                                                                                                                                                                                                                                                                                               AspleulysasnargasnSerLysleulysThrLeuleuhlaileGlyGlyTrpasnPhe
                                                             Conservative:
Mismatches:
Indels:
                                                                                                                                              US-10-004-219B-9 (1-452) x US-08-581-527-4 (1-1681)
                                Length:
Matches:
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966.50
66.07$
48.07$
                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                 Alignment Scores:
Pred. No.:
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/ Match: 38.13% · Indels: 13 1 Gaps: 6	-219B-9 (1-452) x US-08-694-91	1 TyrasnLeulleCysTyrPheThrasnTrpAlaGlnTyrArgProGlyLeuGlySerPhe 20		175 ACCCTGAGAATATTGACCCCTTCCTATGCTCTCATCTATTCATTC	41 GlnasnasnGluleThrThrIleGluTrpasnaspValThrLeuTyrLysalaPheAsn 60	235 GAAAACAACGTTATCATCATCAAGGACAAGAGTGAAGCTCTACCAGACCATCAAC 294	61 AspLeuLysAsnArgAsnSerLysLeuLysThrLeuLeuAlaileGlyGlyTrpAsnPhe 80		::	101 ServallleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspTrpGluTyr 120	415 TCCATAATCCTGTTTCTGAGGAACCATAACTTTGATGGACTGGATGTAAGCTGGATCTAC 474	121 ProGlySerArgGlySerProProGlnAspLysHisLeuPheThrVälLeuValLysGlu 140 (:::		::: :::::		580 GCGGGCGTATCTGCCAGGGCAAATGATTGATAACAGCTATCAAGTTGAGAACTGGCA 639	181 LysTyrLeuAspPheIleHisValMetThrTyrAspLeuHisGlySerTrpGluGly 199	TyrThrGlvGluAenSerProLeuTyrLysTyrProThrGluThrGlySerAenAla	CTTATCACTGGCCACACACACGCTCTGAGCAGGGTGGCAGGACAGGCCCAAGCTCC	219 TyrLeuAsnValAspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLys 238	760 Tactacaatidideaatatigecreregegetactideatacataagedaareccateagadaag 819	239 LeulleValGlyPheProGluTyrGlyHisThrPheIleLeuArgAsnProSerAspAsn 258 ::::::::	259 GlyiledlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGly 278	877 ACCGTGGGGGCCCCTGCCTCTGGGCCTGCTGCACCCATCACAGAGTCTTCAGGC 936	PheTrpAlaTyrTyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAsp	TTCCTGGCCTATTATGAGATCTGCCAGTTCCTGAAAGGAGCCAAGATCACGCGGCTC	299 AlaSerGlnGluValProTytAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnlle 318 299 CAGGATCAGCAGGTTCCTAACGCAACAACAACGAGGGGTGGGT		
Query DB:	US-10-004	è 8	, à	qq	ò	g	8 8	3 8	2 A	ò	g	\$ a	ò	q	È	셤	è &	ò	를 A	ć	ପ୍ଧ	P &	ò	qq	Š	g	දු පු	ઠે	ÿ

δ	339	TrpalalleAspLeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeu 35	28
qq	1114	TGGTCTATTGACATGGATGACTTCACTGGCAATCCTGCAACCAGGGCCCTTACCCTCTT 1173	173
ò	359	359 ThrSerThrLeuAsnLysAlaLeuGlyIleSerThrGluGlyCysThr 374	74
qq	1174	TCCCTGTGAAGG	233
ò	375	AlaPro	
qq	1234	1234 CAAGATGACCTTGCCTGGGGCCTGCTCTCCCCAGGAATTCTCATGTGGGA 1287	
Search Job t	h complet ime : 95.	Search completed: June 30, 2003, 01:11:17 Job time : 95.5237 secs	

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Sequence 40, Appl Sequence 37, Appl Sequence 37, Appl Sequence 37, Appl Sequence 36, Appl Sequence 678, Appl Sequence 1684, App Sequence 1084, App Sequence 1084, App Sequence 1084, App Sequence 1084, App Sequence 1081, App Sequence 14460, App Sequence 14919, App Sequence 19112, App Sequence 14919, App Sequence 10412, App Sequence 4053, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Macrozyme
APPLICANT: Macrozyme
APPLICANT: Acrts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: Wilch mucus is involved or infection diseases in
TITLE OF INVENTION: Wilch mucus is involved or infection diseases
TITLE OF INVENTION: Wilch mucus is involved or infection diseases
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 3
                                                     Sequence 8, R
Sequence 20, R
Sequence 22, R
Sequence 17, R
Sequence 4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: mouse AMCase OTHER INFORMATION: cDNA sequence and deduced amino acid sequence FEATURE:
                       Sequence 4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of Combined DNA/RNA Molecule: mouse sequence and deduced amino acid
                                                                                                                                Sequence 1
Sequence 1
Sequence 1
                                       Sequence
                                                                                                                                                                                                                                                                                                                                                         US-09-974-300-646
US-09-960-352-2589
US-09-960-352-3364
US-09-960-352-3057
US-09-960-352-3057
US-09-960-352-3072
US-09-960-352-14460
US-09-960-352-14460
US-09-960-352-14919
US-09-960-352-1882
US-09-960-352-1882
US-09-960-352-315
US-09-960-352-315
US-09-960-352-315
                                                                     US-10-218-743-20
US-10-218-743-22
US-10-218-743-17
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US-10-218-743-16
US-10-218-743-37
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US-10-218-743-39
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US-10-218-743-36
US-10-218-743-36
US-09-950-352-678
US-09-950-352-678
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US-09-960-352-10172
US-09-960-352-4979
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, Application US/10004219B; Publication No. US20030087414A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Description
OTHER INFORMATION: AMCASE CDNA
OTHER INFORMATION: SEQUENCE
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA ORGANISM: Artificial Sequence
                     US-10-004-219B-3
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323
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-FGAPOP=6 -FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOPE=6 -DELEXT=7
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Sequence 2, Appli
Sequence 44, Appl
Sequence 14, Appl
                                                                                                                                                    (without alignments)
4070.941 Million cell updates/sec
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score greater than or equal to the score of the result being printed,
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1 YNLICYFTNWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCNWP
                                                                                                                                  June 29, 2003, 23:54:39 ; Search time 164.82 Seconds
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1: /cgn2_6/ptodata1/pubpna/USO7_PUBCOMB.seq:*
2: /cgn2_6/ptodata1/pubpna/PCT_NEW_PUB.seq:*
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4: /cgn2_6/ptodata1/pubpna/USO6_PUBCOMB.seq:*
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14: /cgn2_6/ptodata1/pubpna/USO0_NEW_PUB.seq:*
14: /cgn2_6/ptodata1/pubpna/USO0_NEW_PUB.seq:*
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                     GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                            - nucleic search, using frame_plus_p2n model
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US-10-004-219B-2
US-10-097-340-44
US-10-202-436A-14
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
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Score

Result No.

Total number of

Searched:

Title: Perfect score:

Sequence:

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Run on:

Scoring table:

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                           PheSerValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAla 340
           1024 TTCAGTGTTAAGGCTCAGTGGCTTAAGCAGAACAATTTTGGAGGTGCCATGATCTGGGCC
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Conservative:
Mismatches:
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APPLICANT: Xumei ZHAO
TITLE OF INVENTION: Nucleic Acid Molecules and Proteins For The Identification,
FILE OF INVENTION: Nucleic Acid Molecules and Therapy of Ovarian Cancer
FILE REFERENCE: MRI-030
CURRENT APPLICATION NUMBER: 60/276,025
PRIOR APPLICATION NUMBER: 60/226,149
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-626
PRIOR FILING DATE: 2001-03-66
PRIOR FILING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-36
PRIOR PRIOR FILING DATE: 2001-09-36
PRIOR PRIOR FILING DATE: 2001-09-36
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PRIOR PRI
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FUBLICANT: OCH MONAHAN
APPLICANT: Anniula GANNAVARAU
APPLICANT: Sebastian HOERSCH
APPLICANT: Shubhangi KAWATKAR
APPLICANT: Steve G. KOVATS
APPLICANT: Steve G. KOVATS
APPLICANT: Michael MORRISEY
APPLICANT: Michael MORRISEY
APPLICANT: Peter OLANDT
APPLICANT: Peter VEIBY
APPLICANT: Peter VEIBY
APPLICANT: Rachel B. MILLS
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                                                                      TyrTyrGluIleCysThrPheLeuArgSerGlyAlaThrGluValTrpAspAlaSerGln 301
                                                                                   242 TACTACGAGATCTGTACCTTCCTGAAAAATGGAGCCACTCAGGGATGGGATGCCCCTCAG 301
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    GGATTCCCTACCTATGGACACAACTTCATCCTGAGCAACCCCTCCAACACTGGAATTGGT 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4, Application US/09215077A

Sequence No. US20020031793A1

GENERAL INFORMATION:

APPLICANT: PRICE, PAUL A.

APPLICANT: OCHANSEN, JULIA S.

TITLE OF INVENTION: MARMALIAN CONNECTIVE TISSUE MATRICES

FILE REFERENCE: 4077-89541US

CURRENT FILING DATE: 1998-12-18

FRICA PAPLICATION NUMBER: 08/581,527

PRIOR PAPLICATION NUMBER: 08/581,527

PRIOR PAPLICATION NUMBER: 08/089,989

PRIOR FILING DATE: 1995-04-17

PRIOR PAPLICATION NUMBER: 08/089,989

PRIOR FILING DATE: 1995-07-09

NUMBER OF SEQ ID NOS: 4

SOFTWARE: PATENTIN Ver: 2.0

SEQ ID NO 4
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|Caataactgctgctccagtggcagcgggaacgggagcggggtagctctggaggg
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                                                                                                                                                             SerValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAlaIle
                                                GCCCCCACCTCTGGTGCTGCTGCTGGCCCTATGCCAAGGAGTCTGGGATCTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE: OTHER INFORMATION: Description of Artificial Sequence:cDNA nucleotide OTHER INFORMATION: sequence for the coding region of the gene for OTHER INFORMATION: YKL-40.
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Pred. No.:
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                                                                                                                                                           TyrasnLeulleCysTyrPheThrasnTrpAlaGlnTyrArgProGlyLeuGlySerPhe 20
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                                                 GlnGluValProTyrAlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSer 320
                           ProGlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGlu 140
                                                                                                                     141 MetArgGluAlaPheGluGlnGluAlaIleGluSerAsnArgProArgLeuMetValThr 160
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|GCAGCACTGTCTGCGGGGAAGGTCACCATTGACAGCTATGACATTGCCAAGATATCC 656
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TITLE OF INVENTION: POLYNUCLECTIDES ENCODING NOVEL SECRETED PROTEINS
FILE REFERENCE: GIN 6402
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APPLICANT: Wong, Gordon G.
APPLICANT: Clark, Hilary
APPLICANT: Fechtel, Kim
APPLICANT: Agostino, Michael J.
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Gulukota, Kamalakar
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APPLICANT: DOHANSEN, UTLIA
TITLE OF INVENTION: ASANY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
TITLE OF INVENTION: MANMALIAN CONECTIVE TISSUE MATRICES
FILE REFERENCE: 407T-895412US
CURRENT APPLICATION WUMBER: US/09/262,213A
CURRENT FILING DATE: 1999-01-04;
FRIOR APPLICATION NUMBER: PCT/US94/07754
PRIOR FILING DATE: 1994-07-09
PRIOR FILING DATE: 1994-07-08
PRIOR FILING DATE: 1994-07-08
PRIOR FILING DATE: 1994-07-08
PRIOR FILING DATE: 1996-04-17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 4
SOFTWARE: PatentIn version 3.0
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66.078
48.078
38.778
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US-09-262-213A-4
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Best Local Similarity:
Query Match:
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us-10-004-219b-9.rnpb

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LeulleValGlyPheProGluTyrGlyHigThrPheIleLeuArgAsnProSerAspAsn 258
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Matches:
Conservative:
Mismatches:
Indels:
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854.50
64.69%
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34.28%
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ORGANISM: Homo sapiens
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Best Local Similarity:
Query Match:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrLeuAsnValAspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAlaGluLys 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGATCAGAAA------GAAAACACTCAT---TTCACTGTGCTGATTCATGAG 480
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                                                                                                                                                                                                                                                                                        1 TyrasnLeulleCysTyrPheThrasnTrpalaGlnTyrargBroGlyLeuGlySerPhe 20
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Matches:
Conservative:
Mismatches:
Indels:
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CURRENT APPLICATION NUMBER: US/09/822,830A CURRENT FILING-DATE: 2001-03-29 PRIOR APPLICATION NUMBER: 60/195,604 PRIOR FILING DATE: 2000-04-06 NUMBER OF SEQ ID NOS: 631 SOFFWARE: Patentin Ver. 2.0 SEQ ID NO 402 LENGTH: 1391
                                                                                                                                           ; OTHER INFORMATION: n=a,c,g, or US-09-822-830A-402
                                                                                                                                                                                    2.28e-95
902.50
59.33$
40.67$
                                                                                         TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                       NAME/KEY: misc_feature
LOCATION: 1353
                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                              Alignment Scores:
Pred. No.:
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Sequence 8, Application US/09765231A

Patent No. US2020119452A1

GENERAL INFORMATION:
APPLICANT: Seatle/Monsanto
APPLICANT: Vasanthakamur, Geetha
APPLICANT: OF INVENTION: Osteoarthritis tissue-derived nucleic acids, polypeptides,
TITLE OF INVENTION: Osteoarthritis tissue-derived nucleic acids, polypeptides,
TITLE OF INVENTION: Vectors, and cells
FILE REFERENCE: SO-1221 PR
CURRENT APPLICATION NUMBER: US/09/765,231A
CURRENT FILING DATE: 2001-01-18
NUMBER OF SEQ ID NOS: 82

SEQ ID NOS: 82
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1135 GTCCAAGCAGTCAAGAGAAGCCTTGGCTCCCTGTGAAGGATTAACTTACAGAGAAGCAGG 1194
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           359 ThrserThrLeuAsnLysAlaLeuGly------367
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838 ACGTGGGGGCCCCTCTGGCCTGGAGCTGCTGGACCCATCACAGAGTCTTCAGGC 897
                                                                                                                                                                        PheTrpAlaTyrTyrGluIleCygThrPheLeuArgSerGlyAlaThrGluValTrpAsp 298
                                                                                                                                                                                                                                                                              299 AlaSerGinGluValProTyrAlaTyrLy8AlaAsnGluTrpLeuGlyTyrAspAsnIle 318
                                                                                                                                                                                                                           rrccredccrarrardadarcrdccagrrccrdaaa---ddadccaagarcacgaggcrc 954
                                                                   259 GlyIleGlyAlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGly
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                                                                                                                                                                                                                                                                                                                                                              Sequence 20, Application US/10218743
Publication No. US20030096779A1
GENERAL INFORMATION:
APPLICANT: McCall, Catherine A.
APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Bric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
                                                              -----IleSerThrGluGl 372
                                                                                                                                                  372 yCysThrAlaProAspValProSerGluProValThrThrProProGlySerGlySerGl 392
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154
69
144
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Mismatches:
Indels:
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                                                                eProLeuThrSerThrLeuAsnLysAlaLeuGly---
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Matches:
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CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 1002-08-13
PRIOR APPLICATION NUMBER: US/09/292,225
PRIOR PILING DATE: 1999-04-15
PRIOR PILING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/085,295
PRIOR PILING DATE: 1998-09-02
PRIOR PILING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
SOFTWARE: PATCHIN VOR: 2.0
SEQ ID NO 20
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ORGANISM: Dermatophagoides farinae
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53.61%
37.02%
29.26%
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US-10-218-743-20
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Best Local Similarity:
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LOCATION:
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                                                                                                            CTACCCAGATCAGAAA-----GAAAACACTCAT---TTCACTGTGCTGATTCA 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sGluMetArgGluAlaPheGluGlnGluAlaIleGluSerAsnArgProArgLeuMetVa 159
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                                                                                                                                                                      eLysProAspAsp-IleAsnProCysLeuCysThrHisLeuIleTyrAlaPhe-AlaGly 39
                                                                                                                                                                                                                                                                                                                                            AsnAsp-LeuLysAsnArgAsnSerLysLeuLysThrLeuLeuAlaIleGlyGlyTrpAs 79
                                                                                                                                                                                                                                                          MetGlnAsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrLysAlaPhe 59
                                                                                      TyrAsnLeulleCysTyrPheThrAsnTrp-AlaGlnTyrArgProGlyLeuGlySerPh
                                                                                                                                                                                                                                                                                                                                                                     217 AsnAlaTyrLeuAsnValAspTyrValMetAsnTyrTrpLysAsnAsnGlyAlaProAla
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                                            US-10-004-219B-9 (1-452) x US-09-765-231A-8 (1-1474)
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TITLE OF INVENTION: AND USES THEREOF

CURRENT APPLICATION NUMBER: US/10/218,743

CURRENT FILING DATE: 1990-04-15

PRIOR PELING DATE: 1990-04-15

PRIOR PELING DATE: 1990-05-13

PRIOR PELING DATE: 1990-04-17

PRIOR PELING DATE: 1990-04-17

PRIOR APPLICATION NUMBER: 09/062,013

PRIOR PELING DATE: 1990-04-17

NUMBER OF SEQ ID NOS: 49

SOFTWARE: PARCETIN VET: 2.0

SOFTWARE: PARCETIN VET: 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Dermatophagoides farinae
                                        APPLICANT: McCall, Catherine A. APPLICANT: Hunter, Shirley Wu APPLICANT: Weber, Eric R.
  US20030096779A1
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                                                                                                                                                                                                      171 GlnAlaGlyTyrGluIjeProGluLeuSerLygTyrLeuAspPheIleHisValMetThr 190
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                                      CCAACATATCGTCAACAATTCATACAATCAGTTTTGGACTTTTTGCAAGAATACAAGTTC 399
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GAAAAACGTGGTTATGAACGTTTCAACAACTTGCGATTGAAGAATCCAGAATTAACCACC 279
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APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
FILE REPERENCE: AL-2-3
CURRENT APPLICATION NUMBER: US/10/219,743
CURRENT FILING DATE: 1999-04-15
PRIOR PILING DATE: 1999-04-15
PRIOR PELICATION NUMBER: 60/098,909
PRIOR PELICATION NUMBER: 60/098,909
PRIOR PILING DATE: 1998-09-13
PRIOR PILING DATE: 1998-09-13
PRIOR PAPLICATION NUMBER: 60/098,565
PRIOR PILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR PILING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
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                                        ProThrGluThrGlySer---AsnAlaTyrLeuAsnValAspTyrValMetAsnTyrTrp
                                                                                                                                                                                                        930 CCAGATGAAACTGATGAGTTGCACACTTACTTCAATGTCAACTACACCATGCACTATTAT
                                                                                                                                                                                                                                                                290 ArgSerGlyAlaThrGluValTrp------AspAlaSerGlnGluValProTyr
                   171 GlnAlaGlyTyrGluIleProGluLeuSerLysTyrLeuAspPhelleHisValMetThr
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112 AspGlyLeuAspLeuAspTrpGluTyrProGlySerArg---GlySerProProGlnAsp 130
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GAAAAACGTGGTTATGAACGTTTCAACAACTTGCGATTGAAGAATCCAGAATTAACCACC 336
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Matches:
Conservative:
Mismatches:
Indels:
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TYPE: DNA ORGANISM: Dermatophagoides farinae
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TATGATTACCACGGTGGATGGGAAAACTTTTACGGTCACAATGCTCCGTTGTATAAACGA 931
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APPLICANT: McCall, Catherine A.
APPLICANT: MINE of Shirley Wu
APPLICANT: MINE of Shirley Wu
APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-3
CURRENT FILING DATE: 2002-08-13
CURRENT FILING DATE: 1999-04-15
PRIOR APPLICATION NUMBER: US/10/292,225
PRIOR APPLICATION NUMBER: 60/098,909
PRIOR PILING DATE: 1999-04-15
PRIOR PLING DATE: 1998-05-13
PRIOR APPLICATION NUMBER: 60/098,295
PRIOR PLING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
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270 AlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyrTyrGluIleCysThrPheLeu 289
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                                                                                                                                           290 ArgSerGlyAlaThrGluValTrp
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Publication No. US20030096779A1
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LENGTH: 1665
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1027 GGTTACAATGATAAAATCTGGGTCGGTTACGATGATCTGGCCAGTATATCATGCAAGTTG 1086
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                        SerGlnAsnArgGlnThrPheIleThrSerValIleLysPheLeuArgGlnTyrGlyPhe 111
                                                                      ccaacatatécreacaatreatacaateacrittregactititiecaagaatacaagtre 456
                                                                                                                                                                               GACGGICTAGATTIGGATIGGGAGTATCCTGGATCTCGATTGGGTAACCCGAAAATCGAT 516
                                                                                                                                                                                                                                   131 LysHisLeuPheThrValLeuValLysGluMetArgGluAlaPheGluGlnGluAlaIle 150
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APPLICANT: Mucher, Shirley Wu
APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
FILE REPERENCE: AL-2-C3
CURRENT PILING DATE: 2002-08-13
CURRENT FILING DATE: 1999-04-15
PRIOR PPLICATION NUMBER: 60/098,909
PRIOR FILING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/085,295
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
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--CCGAAAAATCCATTGTTGAACAAAGTT 475
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Mismatches:
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Matches:
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Publication No. US20030096779A1
GENERAL INFORMATION:
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ORGANISM: Dermatophagoides farinae
TTCAAAGGT---CACTGCGGA--
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; LOCATION: (1)..(1665)
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Sequence 40, Application US/10218743

Publication No US20030096779A1

GENERAL INFORMATION:

APPLICANT: McCall, Catherine A.

APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Exic R.

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: AND USES THEREOF

FILE REFERENCE: AL-2-C3

CURRENT APPLICATION NUMBER: US/10/218,743

CURRENT APPLICATION NUMBER: US/09/292,225

PRIOR APPLICATION NUMBER: 60/098,909

PRIOR FILING DATE: 1998-09-02

PRIOR FILING DATE: 1998-09-02

PRIOR FILING DATE: 1998-05-13

PRIOR FILING DATE: 1998-04-17

PRIOR FILING DATE: 1998-04-17

PRIOR FILING DATE: 1998-04-17

PRIOR FILING DATE: 1998-04-17

PRIOR FILING DATE: 1998-04-17

PRIOR FILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 49

SOSTWARE PATENTIN VALUE.
                                           306 AlaryrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSerValLysAla 325
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897 TGGAGCATTGAAGATCGAAGCAAACTCGAACTTGGAGATCCAGCCAAAGGCATGTCGCCC 838
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LENGTH: 1470
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TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS TITLE OF INVENTION: AND USES THEREOF FILE REFERENCE: AL.2-3 CURRENT APPLICATION NUMBER: US/10/218,743 CURRENT FILING DATE: 2002-08-13 CURRENT FILING DATE: 1999-04-15 PRIOR PAPLICATION NUMBER: US/09/292,225 PRIOR PELLOATION NUMBER: US/09/292,225 PRIOR PELLOATION NUMBER: US/09/999 PRIOR FILING DATE: 1998-00-02 PRIOR PILING DATE: 1998-00-13 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILI
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Mismatches:
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                                                                                                                                                                                                                                                                                                163 TACAAATACACCATTCAAGTTTTTGATCCATTTCAAGATGATGATCATAACCATAACTCATGG--- 219
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PhelleLeuArgAsnProSerAspAsnGlyIleGlyAlaProThrSerGlyAspGlyPro 269
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                                                                                                                                                                                                                                                                             23 AspAspIleAsnProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetGlnAsn 42
                                                                                                                                                                                                                                                                                                                                                                                                     71
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Matches:
Conservative:
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Best Local Similarity:
Query Match:
; NAME/KEY: CDS
; LOCATION: (1).
US-10-218-743-40
                                                            Alignment Scores:
Pred. No.:
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                                                                                                                                                                                            306 AlaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSerPheSerValLysAla 325
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859 CCTGGTTTTATTACTGGTGAAGAAGGTGTTCTCTCATACATCGAATTGTGTCAGTTATTC 918
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                                                                 290 ArgSerGlyAlaThrGluValTrp-
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GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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June 29, 2003, 20:56:54 , Search time 14.0414 Seconds * (without alignments) 3094.613 Million cell updates/sec Run on:

Title: Perfect score: Sequence:

US-10-004-219B-9
2493
1 YNLICYFTNWAQYRFGLGSF.....QQHCQAGLVFDTSCNCCNWP 452

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283224 seqs, 96134422 residues Searched:

283224 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR 73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

RESULT 2

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chitinase [importe hypothetical prote chitinase homolog	probable membrane 47K glycoprotein p chitinase (EC 3.2.	chitinase homolog chitodextrinase VC chitinase (EC 3.2.	chitinase (EC 3.2. chitinase homolog hypothetical prote	chitinase precurso hypothetical prote chitinase (EC 3.2. chitinase (EC 3.2.
F84238. T24898 T04763	S61166 JC4038 T30933	T04756 D82428 S04856	S52422 T04757 T04754	S60651 T04753 T30199 A25090
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546 633 366	511 452 1054	371 1051 499	3 6 5 3 4 9 9 3 3 2 5	563 421 1046 561
16.6	15.7 15.6 15.0	14.8 14.8 14.7	14.6 14.4 14.3	14.3 13.7 13.4
417.5 413 395	388 288 289 44	368 368 365.5	364.5 360 356.5	355.5 341.5 333.5
30	333	36 37 38	33 440 170	2 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

ALIGNMENTS

RESULT 1 \$27879 \$27879 \$27879 Secretory protein YM-1 precursor - mouse C;6pecies: Mus musculus (house mouse) C;6pecies: Mus musculus (house mouse) C;6cession: \$27879 \$4;6chang, W.C.A.; Liu, C.H.; Chang, A.C. submitted to the EMBL Data Library, June 1992 \$4;6chang, W.C.B.; Liu, C.H.; Chang, A.C. \$4;6cescription: Molecular characterization of a secretory protein (YM-1) transiently expression: \$27879 \$4;Reference number: \$27879 \$4;Reference number: \$27879 \$5,750 Secretory From Secretory protein (YM-1) transiently expression: \$27879 \$5,750 Secretory From Secretory Protein YM-1 #81418 \$5,70 Secretory File Secretory protein YM-1 #81418 predicted <81G> F;22-399/Product: secretory protein YM-1 #81418	Query Match Best Local Similarity 64.5%; Pred. No. 7.6e-92; Matches 243; Conservative 53; Mismatches 80; Indels 1; Gaps 1;	1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN 60	61 DLKN-RNSKLKTLLAIGGWNFGTAPFTTWVSTSQNRQTFITSVIKFLRQYGFDGLDLDWE 119 :: ::	120 YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL 179 	180 SKYLDFIHVMTYDLHGSWECYTGENSPLYKYPTETGSNAYLNVDYVMNYWRNNGAPAEKL 239 	240 IVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEWWDA 299	300 SQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLT 359 	360 STLNKALGISTEGCTAP 376
RESULT 1 827879 827879 827879 C;Specter C;Date: C;Acces R;Charter A;Descrit A;Resert A;Access A;Access A;Coss- C;Superf F;22-399	Query Mai Best Loc Matches	yo. da	yo, da	y d	S AG	SP GS	Qy Db	oy Ob

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shares identity with chitinases,
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                                                                                                                                                                                                                                                                                                                                                                      300 SQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLT 359
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C,Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C,Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 05-Nov-1999
                                                                                                              120 YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL
                                                                                                                                                                                   180 SKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number: I46470; MUID:95269691; PMID:7750470
A; Accession: I46470
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A; Accession: I46470
A; Accession: I46470
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: I-539 < DES>
A; Cross-references: EMBL:U16719; NID:9885600; PIDN:AAC48471.1; PID:9885601
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HTLNNLL-VNDEFSSTPSPKFWFSTAVNSSRIGPEMPTMTRDLTTGLGILPPG
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**LobSouza, M.M.; Murray, M.K.

Endocrinology 116, 2455-2496, 1995

A, Title: An estrogen-dependent secretory
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376 HTLNNLL-VNDEFSSTP 391
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C;Keywords: glycoprotein
                                                                     C;Accession: 138605
R;Arias, E.B.; Verhage, H.G.; Jaffe, R.C.
Biol. Reprod. 51, 685-694, 1994
A;Title: Complementary deoxyribonucleic acid cloning and molecular characterization of A;Reference number: 138605; MUID:95119256; PMID:7819450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Sendai, Y.; Abe, H.; Kikuchi, M.; Satoh, T.; Hoshi, H.
Biol. Reprod. 50, 927-934, 1994
A;Title: Purification and molecular cloning of bovine oviduct-specific glycoprotein.
A;Reference number: S57197; MUID:94257768; PMID:8199272
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               141
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                   oviductal glycoprotein - human
C;Species: Homo sapiens (man)
C;Date: 29-May-1998 #sequence_revision 29-May-1998 #text_change 29-May-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S57197 conduct-specific glycoprotein 95K precursor - bovine (fragment) conduct-specific glycoprotein 95K precursor - bovine (fragment) C;Species: Bos primigenius taurus (cattle) C;Species: 28-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YPGLRGSPWHDRWTFLFLIEELLFAFRKEALLIWRPRLLLSAAVSGVPHIVQTSYDVRFL
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49.2%; Pred. No. 1.8e-67;
iive 53; Mismatches 125; Indels 3
                                                                                                                                                                                                                                                                                                                                              Length 654;
                                                                                                                                                                                                                                                                                                                                            40.6%; Score 1013; DB 2; Length 6 48.8%; Pred. No. 1.4e-67; ive 58; Mismatches 125; Indels
                                                                                                                                                                                                                                                                                                   A; Cross-references: EMBL: U09550; NID: g529147; PID: g529148
                                                                                                                                                                                                                            A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-654 <RES>
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Best Local Similarity 48.8%
Matches 203; Conservative
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Matches 203; Conserv
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A;Molecule type: mRNA
A;Residues: 1-537 <SEN>
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DLKONRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY 120
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C;Species: Chelonus sp.
C;Accession: A53918; #sequence_revision 28-Jul-1995 #text_change 21-Jul-2000
C;Accession: A53918
R;Krishnan, A.; Nair, P.N.; Jones, D.
J; Biol. Chem. 269, 20971-20976, 1994
A;Title: Isolation, cloning, and characterization of new chitinase stored in A;Reference number: A53918; MUID:94342256; PMID:8063715
A;Accession: A53918
A;Reterence number: A53918
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                                          A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-383 <SHA>
A;Cross-references: EMBL:Z47803; NID:g634097; PIDN:CAA87764.1; PID:g634098
C;Superfamily: Streptomyces chitinase chi40
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C;Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                                                                                                                                          Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36.1%; Score 901; DB 2; Length 483; 38.6%; Pred. No. 2e-59; ive 77; Mismatches 170; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chitinase (EC 3.2.1.14) precursor - braconid wasp (Chelonus sp.)
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                                                                                                                                                                                                                                                                                                              Ouery Match 39.0%; Score 973.5; DB 2; Best Local Similarity 50.4%; Pred. No. 5.9e-65; Matches 185; Conservative 63; Mismatches 110;
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A:Accession: S51327
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submitted to the EMBL Data Library, January 1995
A.Description: Identification of a 38kDa heparin-binding glycoprotein (gp38k) in differe
A.Reference number: S51327
                                                                                                                                                                                                                                                                                                                             C,Accession: A49562; 810677; 7331628.
R,Hakala, B.E.; White, C.; Recklies, A.D.
J. Biol. Chem. 268, 25803-25810, 1993
A;Title: Human cartilage gp.39, a major secretory product of articular chondrocytes and A;Reference number: A49562; MUID:94064658; PMID:8245017
A;Accession: A49562
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                                                                                                                                                                               cartilage glycoprotein gp39 precursor - human
NyAlternate names: 33K synovial protein
C;Species: Homo sapiens (man)
C;Species: 23-Mar-1995 #sequence_revision 23-Mar-1995 #text_change 22-Jun-1999
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A;Residues: 1-383 <HAK>
A;Cross-references: GB:M80927; NID:g348911; PIDN:AAA16074.1; PID:g348912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,Molecule type: protein
A,Residues: 22-40, 'X',42-45 < NYZ>
C,Superfamily: Streptomyces chitinase chi40
C;Keywords: cartilage; extracellular protein; glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-383/Product: cartilage glycoprotein gp39 #status predicted <MAT>
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Biochem. J. 269, 265-268, 1990
A;Title: Human synovial cells secrete a 39 kDa protein E
A;Reference number: $10677; MUID:90328983; PMID:2375755
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C;Species: Sus scrofa domestica (domestic pig)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997
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NAIKDAL 380
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Db 465 TTTRAATTTTASNTNVCSGKSDGFYPNSNNCGLFVLCLSSKSYSMSCPSGLQYSASLKYC 524	an-1999	C;Accession: A56596 R;Kramer, K.J.; Corpuz, L.; Choi, H.K.; Muthukrishnan, S. Insect Biochem. Mol. Biol. 23, 691-701, 1993 A;Title: Sequence of a cDNA and expression of the gene encoding epidermal and gut chiting A;Recession: A56596; MUID:93357793; PMID:835525 A;Accession: A56596	A;Status: preliminary A;Molecule type: mRNA A;Residues: 1-554 <kra> A;Cross-references: GB:U02270; GB:S64757; NID:g406048; PID:g406049 A;Experimental source: larvae A;Note: sequence extracted from NCBI backbone (NCBIN:136417, NCBIP:136418) C;Keywords: glycosidase; hydrolase; polysaccharide degradation</kra>	Query Match 34.6%; Score 863.5; DB 2; Length 554; Best Local Similarity 35.0%; Pred. No. 1.5e-56; Matches 187; Conservative 79; Mismatches 168; Indels 101; Gaps	3 LICYFTWAQYRFGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYK :: : : ::	Qy 58 AFNDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLD 117	Qy 118 WEYPGSRGSPPQDKHLFTULVKEMREAFEQEAIESNRPRLMYTAAVAGGISNIQAGYE 175	Qy 176 IPBLSKYLDPIHVWTYDLHGSWEGYTGENSPLXKXPTETGSNAYLNVDYVMXWKNNGAP 235	236 AEKLIVGFPEYGHTFILRNPSDN-GIGAPTSGDGPAGAYTRQAGFWAYYEICTFL	290 -RSGATEVWDASQEVPYAYKANENLGYDNIKSFSYKAQWLKQNNFGGAMIWALDLDDFTG 	349 SFCDQGKFPLTSTINKALGISTEGCTAPDVPSEP 380 -LCGE-KNPLIKILHKHMSSYTVPPPHTENTTPTPEWARPPSTPSDPSGDPIPTTTAK	438 PASTIKTIVKTTITITAKPPQSVIDEENDINVRPEPKPEPQPEPBVEVPP	OY 398 GSSGGSGFCADKADGLYPVADDRNAFWQCINGITYQQCQGLVPTSCNCCNWP 452 	RESULT 10 T44445 Chitinase (EC 3.2.1.14) [imported] - African malaria mosquito	C;Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 21-Jan-2000 C;Accession: T44445
178 ELSKYLDPÍHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYKNNGAPAE 237 	238 KLIVGFPEYGHTFILKNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLKSGATE-V 296	317 QDNEKGVPYAVKGNQWVSFDDLAAIKAKAQPIKQEGGGAWVWSIETDDFKG-LCGE-KY 374 357 PLTSTLNKALGISTEGCTA	396 SGGSSGGSGFCADKADGLYPVADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNWP 452	osdus pothetical protein C04F6.3 - Caenorhabditis elegans Species: Caenorhabditis elegans Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999 Accession: T15408	Nhan, M. omitted to the EMBL Data Library, December 1995 Description: The sequence of C. elegans cosmid CO4F6. Reference number: Z18346	Accession: T15408 Status: preliminary; translated from GB/EMBL/DDBJ Wolecule type: DNA Residues: 1-617 cMHa>	Cross-references: EMBL:U42835; NID:g1125760; PID:g1125762; PIDN:AAA83586.1; CESP:CO4F6 Senetics: Sene: CESP:CO4F6.3 Introns: 28/1; 66/2; 504/1	Query Match 35.7%; Score 889.5; DB 2; Length 617; Best Local Similarity 39.6%; Pred. No. 2e-58; Matches 190; Conservative 74; Mismatches 169; Indels 47; Gaps 14;	FTWWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNBITTIEWNDVTL 5 	56 YKAFNDLKNRNSKLKTLLAIGGWNFGTAPFTTWVSTSONRQTFITSVIKFLRQYGFDGLD 115	116 LDWEYPGSRGSPPQDKHLFTULVKEMRBAFEQEAIESNRPRLMVTAAVAGGISNIQAGYE 175 	176 IPELSKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNN 232 	233 GAPAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLR 290 	291 SGATEVWDASQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSF 350 	351 CDQGKPPLTSTLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGSSGG 398

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C.Species: Brugia malay;
C.Species: Brugia malay;
C.Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 21-Jul-2000
C.Accession: A38221
R.Fuhrman, J.A.; Lane, W.S.; Smith, R.F.; Piessens, W.F.; Perler, F.B.
P.Proc. Natl. Acad. Sci. U.S.A. 89, 1548-1552, 1992
A;Title: Transmission-blocking antibodies recognize microfilarial chitinase in brugian 1)
A;Reference number: A38221; MUID:92179220; PMID:1542646
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196 AQHLDFINLMTYDFHGVWRQITGHHSPLFQGQKDTRFDRYSNVNYAVQYMTRLGAQASKL 255
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                                                                                                                                                                                                                                                                                                                                                                                     NDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWE 119
                                                                                                                                                                                                                                                                                                                                                                                                          YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDA 299
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                                                                                                                                                                                                                                                                                                          22 YKLVCYFTSWSQYREGVGSFLPDAIQPFLCTHIIYSFANISSDNMLSTWEWNDESNYDKL 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQN-NEITTIEWNDVT-----LYK
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                                                                                                                                                                                                                                                                             1 YNLICYFINWAQYRPGLGSFKPDDINPCLCTHLIYAFAGM-QNNEITTIEWNDVTLYKAF
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A;Note: sequence extracted from NCBI backbone (NCBIP:85345)
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
                       C'Genetics:
A,Gene: brps
C'Superfamily: Streptomyces chitinase chi40
E;1-21/Domain: signal sequence #status predicted <SIG>
F;22-405/Product: breast-regressing protein brp39 #status predicted
the differences at the carboxyl end are due to a frameshift
                                                                                                                                                                    Query Match 32.8%; Score 818.5; DB 2; Length 405; Best Local Similarity 45.4%; Pred. No. 2.3e-53; Matches 157; Conservative 70; Mismatches 106; Indels 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGA----MIWAI 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 32.5%; Score 810; DB 2; Length 504 Best Local Similarity 35.2%; Pred. No. 1.3e-52; Matches 168; Conservative 71; Mismatches 198; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: A38221
A; Status: preliminary; not compared with conceptual translation
A; Molecule type: mucleic acid; protein
A; Residues: 1-504 «FUH»
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A;Residues: 1-245,'1',247-330,'H',332-350,'MVWALDLDDFQGTCQPKEFFPLTNAIKDALA' <MOR2>
A;Cross-references: EMBL:X93035; NID:g1085065; PIDN:CAA63603.1; PID:g1085066
                                                                                                                                                                                                                                                                                                          13;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NNGAPAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLR 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    264 AQGCTGRKLVLGIPLYGRNFTLASAANTQIGAPTVGGGTVGRYTRBPGVMGYNEFCEKL- 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             381 LG-VCGGGRYPLMHEIRSLVNGGTPSTTTMPPSVAPTTSTVAPGTTTTTTFTGANPGTTQP 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------GGSSGGSSG-----GSGFCADKADGLYPVADDRNAFWQCINGITYQQH 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GLDLDWEYPGSR-GSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQ 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GIDLDWEYPAQRDGNPLIDRDNHAQLVEEMREEFDHYG-----LLLTAAVASVEFSAG 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  204 VSYDIPRISKSFHFLNVMVYDMHGAWDSYCGINAPLYRGSADTTDRLGQINVNASIHFWL 263
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                                                                                                                                                                                                                                                                                                                                                                                     33 VVCYVGTWAVYRPGNGRYDIEHIDPSLCTHLMYGFFGI--NEDATVRIIDPYLDLEENWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGSFCDQGKFPLTSTLNKALGISTEGCTA--PDV-----PSEPVTTPPGSGSG---
                                                                                                                                                                                                                                                                                                                                                       3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---YKAFNDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFD
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                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                          61;
                                                                                                                                                                                                                                                        Length 525;
                                                                                                                                                                                                                                                      33.9%; Score 844.5; DB 2; Length 36.4%; Pred. No. 3.7e-55; tive 78; Mismatches 177; Indels
                       A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-525 <SHE>
                                                                                                    A;Cross-references: EMBL:AF008575; PIDN:AAB87764.1
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submitted to the EMBL Data Library, November 1995
A,Reference number: S61550
A,Accession: S61550
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A;Molecule type: mRNA
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TCPPGTLFDPALHICNW 516
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                                                                                                                                                                                                      C;Keywords: glycosidase; hydrolase
                                                                                                                            A, Experimental source: adult, gut C, Genetics:
                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 36.44
Matches 181; Conservative
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  A; Accession: T44445
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RESULT
A38368 chitinas
C;Speci C;Date:
R; Watans J. Biol.
A;Title: A;Refere A;Accese

RESULT 14 T29275

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Chitinase (EC 3.2.1.14) precursor - Bacillus circulans
C;Species: Bacillus circulans
C;Species: Bacillus circulans
C;Species: Bacillus circulans
C;Species: Bacillus circulans
C;Species: Bacillus circulans
C;Accession: A38368
R;Watanabe, T.; Suzuki, K.; Oyanagi, W.; Ohnishi, K.; Tanaka, H.
J. Blol. Chem. 265, 15659-15665, 1990
A;Title: Gene cloning of chitinase A1 from Bacillus circulans WL-12 revealed its evolutic
A;Reference number: A38368, MUID:90368776; PMID;2203782
A;Status: preliminary
A;Nolecule type: DNA
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ons: 60/1; 179/1; 219/3; 392/3; 481/3; 549/2; 594/2; 736/3; 843/3; 1056/2; 1444/3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     391 SGGGSSGGSSGGSGFCADKADGLYPVADDRNAFWQCINGITY----QQHCQAGLVFDTSC 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     us: preliminary; translated from GB/EMBL/DDBJ
cule type: DNA
dube: 1-1484 <GRA>
series: 1-1484 <GRA>
a-references: EMBL:U70858; PIDN:AAB09177.1; GSPDB:GN00023; CESP:T01C4.1:
rimental source: strain Bristol N2; clone T01C4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :: |: | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1350 E-----NRQGQCGKSAPLINGFYPVCDPDDPGFSCCGAAGYCGSEEBYCE-----C 1395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                108 QYGFDGLDLDWEYPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNR-PRLMVTAAVAGG 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      167 ISNIQAGYEIPELSKYLDFIHVMTYDLHGSWE----GYTGENSPLYKYPTETGSNAYLNV 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       223 DYVMNYWKNNGAPAEKLIVGFPEYGHTF--ILR--NPSDN--GIGAPISGDGPAGAYTRQ 276
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            333 FGGAMIWAIDLDDPTGSFCDQGKFPLTSTLNKALGISTEGCTAPDVPSEPVT--TPPGSG 390
stical protein T01C4.1 - Caenorhabditis elegans
les: Caenorhabditis elegans
: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 LICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVT-----
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                                                                                                                                                                                                                            es, T.: Wohldmann, P. ted to the EMBL Data Library, September 1996 tription: The sequence of C. elegans cosmid T01C4.rence number: Z20599 selon: T29275
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A; Residues: 1-699 <WAT>

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A;Cross-references: GB:M57601; GB:J05599; NID:g1066341; PIDN:AAA81528.1; PID:g142688 C;Superfamily: fibronectin type III repeat homology C;Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                  18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            437
                                                                                                                                                                                                                                                                             | :: |: :| | | :: | | | 4 YKIVGYYPSWAAYG---RNYNVADIDPTKVTHINYAFADICWNGIHGNPDPSGPNPVTWT 100
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                                                                                                                                                                                                                                                                                                                                                                                                                   101 CONEKSOTINVPNGTIVLGDPWIDTG -- KTFAGDTWDQPIAGNINQLNKLKQTNPNLKTI 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PODKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKYLDFIH 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      218 PEDKONYTLLESKIREKLDAAGAVDGKKYLLTIA--SGASATYAANTELAKIAAIVDWIN 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188 UMTYDLHGSWEGYTGENSPLYKYPTET------GSNAYLNVDYVMNYWKNNG 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATEVWDASQEVPYAYKAN--EWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGS 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPGSRG----SP 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   234 APAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEI-CTFL-RS 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384 GYTRYWNDTAKVPYLYNASNKRPISYDDAESVGYKTAYIKSKGLGGAMFW----ELSG-
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                                                                                                                         19.4%; Score 484; DB 2; Length 699; 27.4%; Pred. No. 4.1e-28; Live 80; Mismatches 156; Indels 108;
                                                                                                                                                                                                                                            1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGM-
                                                                                                                         Query Match
Best Local Similarity 27.4*
Matches 130; Conservative
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drosophila spodoptera

P90710 Q9w2z3 09gv44 044079

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SEQUENCE FROM N.A.
STRAIN=BALB/C; TISSUE=LUNG;
MEDLINE=21125893; PubMed=11085997;
MEDLINE=21125893; PubMed=11085997;
Bloot R.G., Bloommast E.F.C., Swart E., Ghauharali-Van Der Vlugt K.,
Blidentification of a Novel Acidic Mammalian Chitinase Distinct from Chitotrioatagase.";
Ghitotrioatagase.";
J. Blol. Chem. 276:6770-6778(2001).
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Acidic mammalian chitinase (EC 3.2.1.14).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALIGNMENTS
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InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR001257; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Ffam; PF01607; CBM_14; 1.
Ffam; PF00704; Glyco_hydro_18; 1.
Pr0Dom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; 1.
Glycosidase; Hydrolase.
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09GQC4
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Best Local Similarity
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1 YNLICYFTNWAQYRFGLGSF.....QQHCQAGLVFDTSCNCCNWP
                             GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
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sp_rodent:*
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Pred. No. 1.1e-170,

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Similarity

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Gaps

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22 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN

YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN

PGSRGSPPQDKHLFTVLVKEMREAPEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS PGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS

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DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWBY

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KYLDFIHVWTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMYWKNNGAPAEKLI
                                                                                                VGFPEYGHTF1LRNPSDNG1GAPTSGDGPAGAYTRQAGFWAYYE1CTFLRSGATEVWDAS
                                                                                                                             QEVPYAYKANEWLGYDNI KSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTS
                                                                                                                                                                                                                                 QEVPYAYKANEWLGYDNI KS FSVKAOWLKONNFGGAMIWAIDLDDFTGSFCDOGKFPLTS
                                                                                                                                                                                                                                                                                                     TLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGGSSGGSSGGSGFCADKADGLYPVADDR
                                                                                                                                                                                                                                                                                                                                  TINKALGISTEGCTAPDVPSEPVTTPPGSGSGGSSGGSSGGSGCCADKADGLYPVADDR
KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAINS-ATCIA76668; TISSUE=SKIN;
STRAINS-ATCIA76688; TISSUE=SKIN;
Price P.A., Harris S.C., Williamson M.K.;
"YNL, A Putative Mouse Chitinase.";
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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472 PUTATIVE CHITINASE.
51872 MW; FF59088512C8A7F0 CRC64;
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09JINI,
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Putative chitinase precursor (Fragment).
CHIA ON YNL.
Mus musculus (Mouse).
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SEQUENCE
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A TAWAN J. Shibata K. Konno H., Adachi J., Bhidaqawa A., Shibata K. Konno H., Adachi J., Fukuda S., Arakawa T., Hara A., Fukunishi Y., Kiyosawa H., Kondo S., Yamanaka I., A Arakawa T., Hara A., Fukunishi Y., Bonno H., Kadoka S., Yamanaka I., A Saito T., Okazaki Y., Golobori T., Bono H., Kanukawa T., Saito R., Kadoka K., Matsuda H.A., Abburner M., Batalov S., Casavant T., Robel P., Lewis S., Matsud H.A., Abburner M., Batalov S., Quackenbush J., Robel B., Lewis S., Matsuo Y., Nikaido I., Pesolo G., Quackenbush J., Schriml L. M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T., Sakai K., Okido T., Puruno M., Aono H., Baldarelli R., Barsh G., Bolunga N., Carninol P., Genorado M.F., Blake J., Kamiya M., Lee N.H., Brownstein M.J., Bult C., Pletcher C., Friita M., Gariboli M., Gustincich S., Hill D., Hoffmann M., Hume D.A., Kamiya M., Lee N.H., Asasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F., Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L., Mynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S., Hayashizaki Y.;

Functional amnotation of a full-length mouse cDNA collection.",
                                                                                                                                      81 DLKARNSKLKTLLAIGGWNFGTAPFTTWVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY
                                                                                                                                                                                                                  VGFPEYGHTFILRNPSDNGIGAPTSGDGPAGPYTRQAGFWAYYEICTFLRSGATEVWDAS
                                                                                                                                                                                               PGSRGSPPQDKHLFTVLVKEMREAFEQEA1ESNRPRLMVTAAVAGG1SN1QAGYE1PELS
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                                                                       21 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN
                                                                                                                    DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY
                                      1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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  Indels
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Last annotation update)
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0; Mismatches
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451; Conservative
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365 AA
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                                                                                                             PROSITE; PS01095; CHITINASE 18; UNKNOWN 1.
Glycosidase; Hydrolase; Signal.
SIGNAL 121 POTENTIAL.
                InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF01607; CBM_14; 1.
Pfam; PF01607; GBM_44; 1.
ProDom; PF000471; Glyco_hydro_18; 1.
ProDom; PF000471; Glyco_hydro_18; 1.
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InterPro; IPR0015/9; Chitinase_18/2.
InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
                                                                                                                                                        SEQUENCE 476 AA; 52271 MW;
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-i- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL HYDROLASES).

EMBL; AKOOGRS3; BAB25795.1; -.

InterPro; 100001579; Chitinase 18/2.

InterPro; 1PR001579; Chitin bind Pera.

InterPro; 1PR001557; Chitin bind Pera.

InterPro; 1PR001557; Chitin bind Pera.

InterPro; 1PR001557; Chitin bind Pera.

InterPro; 1PR001579; Chitin bind Pera.

InterPro; 1PR001579; Chitin bind Pera.

InterPro; 1PR001579; Chitin bind Pera.

InterPro; 1PR001579; Chitin bind Pera.

Fram; Pr00704; Glyco-hydro-18; 1.

Pr00178; PS01095; CHITINASE 18; 1.

Glycosidase; Hydrolase.
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MEDINE=21125893; PubMed=11085997;
MEDINE=21125893; PubMed=11085997;
Bijl N., Moe C., Place A., Aerts J.M.F.G.;
"Identification of a Novel Acidic Mammalian Chitinase Distinct from Chitchropalase."
J. Biol. Chem. 276:6770-6778(2001).
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Q9BZP6, 01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Homo appiens (Human).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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                                                                                                                                                                                                             99.8%; Score 2488; DB 11; Length 473; 99.8%; Pred. No. 1.1e-170; ive 0; Mismatches 1; Indels 0;
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Matches 451; Conservative
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                                                                                                                  Gaps
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                'n.
                                                                 Length 476;
                                                                                                                42; Indels
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Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; BC011134; AAH11134.1; -
POTENTIAL.
92B27BAD2F7EB4CC CRC64;
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Similar to eosinophil chemotactic cytokine.
                                                                 DB 4;
                                                               Query Match
83.8%; Score 2089.5; DB 4
Best Local Similarity 81.3%; Pred. No. 4.7e-142;
Matches 369; Conservative 40; Mismatches 42;
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Homo sapiens (Human)
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293; Conserv
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Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea;
Bovidae, Bovinae, Bos.
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                                                                                                                              Length 365;
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"A novel serum chitinase that is expressed in bovine liver.";
FRES Lett. 506:127-130(2001).
EMBL; AB051629; BAB71805.1; -.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001257; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
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Pfam; PF01607; CBM_14; 1.

Pfam; PF00704; Glyco_hydro_18; 1.

Pr050m; PD00047; Glyco_hydro_18; 1.

PROSITE; PS01095; CHITINASE 18; UNKNOWN 1.

SEQUENCE 365 AA; 39968 MW; C900BE0C416F1DD CRC64;
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Pfam; PF00704; Glyco_hydro 18; 1.

PROSTTE; PS01095; CHITIMEE 18; 1.

SEQUENCE 472 AA; 52129 MW; 7A4A600EBDA04B1E CRC64;
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Chitin binding protein b04.
                                                                                                                           Score 2000; DB 11;
Pred. No. 8.9e-136;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             79.9%; Score 1991.5; DB 6 77.2%; Pred. No. 5.1e-135; ive 45; Mismatches 57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE=LIVER;
MEDLINE=21475601; PubMed=11591385;
                                                                                                                         80.2%;
                                                                                                                       Query Match '80.2'
Best Local Similarity 99.7
Matches 364; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 79.9
Best Local Similarity 77.2
Matches 348; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCNWP 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCNWP 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovidae; Bovinae,
NCBI_TaxID=9913;
                                                                                                                                                                                                              88
                                                                                                                                                                                                                                                                                                148
                                                                                                                                                                                                                                                                                                                                                                                 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 268
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     448
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Q95M17;
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Gaps

7;

57; Indels

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147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     382 TLKDALGLKSATCNASTQSSEP-NSSPGNESGSGNKSSSSEGRGYCAGKADGLYPVADNR 440
                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                              322 QNVPYAYKGTEWVGYDNVNSFRIXAQMLKENNFGGAMVWAIDLDDFTGTFCNQGKFPLIN 381
                                                                                                                                                                                                                                                       201
9
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                                                                                                                                                                                                 PGSRGSPQDKHLFTVLVKEMREAPEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS
YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN
                     22 YQLVCYFSNWAQYRPGLGSFKPDNIDPCLCTHLIYAFAGMSNSEITTIEWNDVALYSSFN
                                                                                                DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY
                                                                                                                                                                                                                            VGFPEYGHTFILKNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MVSTSQNRQTFITSVIKFLRQYGFDGLDLDWBYPGSRGSPPQDKHLFTVLVKEMREAFEQ
                                                                                                                              TLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGSSGGSSGGSGCRCADKADGLYPVADDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=20018184; PubMed=10548734; Saito A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.; Saito A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.; Isolation and mapping of a human lung-specific gene, TSA 1902, encoding a novel chinase family member."; Gene 239:325-331 (1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.7%; Score 1663.5; DB 4; Length 368; llarity 79.8%; Pred. No. 1.3e-111; Conservative 36; Mismatches 35; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHITINASE 18; UNKNOWN 1.
; 40082 MW; 10FB970C79E19254 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9ULY4;
01-WAY-2000 (TrEMBirel. 13, Created)
01-WAY-2000 (TrEMBirel. 13, Last sequence update)
01-JUN-2002 (TrEMBirel. 21, Last annotation update)
Novel member of chitinase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        441 NAFWNCVNGITYKQNCLIGLVFDTSCHCCNW 471
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421 NAFWQCINGITYQQHCQAGLVFDTSCNCCNW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AB025008; BAA86800.1; -. InterPro; IPR001579; Chitinase 18/2. InterPro; IPR001257; Chitin bind Pera. InterPro; IPR001223; Glyco_hydro_18. Pfam; PF01607; CBM 14; 1. Probom; P000044; Glyco_hydro_18; 1. Probom; P000047; Glyco_hydro_18; 1. SMART; SM00494; ChtBD2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
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REPURENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=CS7BL/6J; TISSUE=STOMACH;

RA AZAWAWA T., Hara A., Shibata K., Yoshino M., Itch M., Ishii Y.,

RA AZAWAWA T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

RA AZAWAWA T., IZAWA M., Nishiahi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Azawa K., Izawa M., Nishiahi K., Romo H., Radcha T., Saito R.,

RA Saito T., Okazaki Y., Gojobori T., Bono H., Rankawa T., Saito R.,

RA Saito T., Okazaki Y., Gojobori T., Bono H., Rankawa T., Saito R.,

RA Fisischmann W., Gassferland T., Gissi C., King B., Kochiwa H.,

RA Kuchi P., Lewis S., Matsuo Y., Nikiaido I., Pesole G., Quackenbush J.,

RA Kuchi P., Lewis S., Matsuo Y., Nikiaido I., Pesole G., Quackenbush J.,

RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

RA Satai K., Okido T., Furuno M., Anno H., Baldarelli R., Barsh G.,

RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

RA Blake J., Boffelli D., Mashima J., Mazzarelli J., Mombaerte P.,

RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerte P.,

RA Wordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

RA Sazaki H., Toyo-oka K., Hasegawa Y., Kawaji H., Kohtsuki S.,

RA Winshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,

HANDELASESI Y.; Faruno of a full-length mouse cDNA collection.";

REBL: AROBOSTS: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL

REBL: AROBOSTS: REBLESSR9:1; -

REPROPOR: PRODON; POROPORISE:18; 1.

REPROPOR: PRODON; FOROPORISE:18; 1.

REPROPOR: PRODON; FOROPORISE:18; 1.

REPROPOR: PRODON; FOROPORISE:18; 1.

REPROPOR: PRODON; FOROPORISE:18; 1.

REPROPORISE: PRODON; GLYCOPORISE:18; 1.

REPROPORISE: PRODON; GLYCOPORISE:18; 1.

REPROPORISE: PRODON; GLYCOPORISE:18; 1.

REPROPORISE: PRODON; GLYCOPORISE:18; 1.
                                                            241 EPITAAPSGSGNGSGSSSGGSSGGGFCAGRANGLYPVANNRNAFWHCVNGVTYQQNCQ 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 TSVIKFLRQYGFDGLDLDWEYPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMV 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EPVTTPP---GSGSGGGSSGGSSGGSGFCADKADGLYPVADDRNAFWQCINGITYQQHCQ 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAAVAGGISNIQAGYEIPELSKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MQNNBITTIEWNDVTLYKARNDLKNRNSKLKTLLAIGGWNFGTAPFTTWVSTSQNRQTFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40 MONNEITTIEWNDVTLYKAFNDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S6.3%; Score 1403; DB 11; Length 262; Similarity 99.2%; Pred. No. 4.4e-93; O. Conservative 0; Mismatches 2; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Glycosidase, Hydrolase.
SEQUENCE 262 AA; 29458 MW; 954AA0F0E1C9851D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                           Q9D7W6;
01-JUN-2001 (TrEMBLrel. 17, C.
01-JUN-2001 (TrEMBLrel. 17, L.
01-MAR-2002 (TrEMBLrel. 20, L.
2200003E03Rik protein.
CHIA OR 2200003E03RIK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 99.23
Matches 260; Conservative
                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                       301 AGLVFDTSCDCCNW
                                                                                                                                        438 AGLVFDTSCNCCNW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                               381
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                                                                                                                                                                                                                                                                                RESULT
Q9D7W6
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                                                                                                                                                                                                                   141 MREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKYLDFIHVMTYDLHGSWEGY 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 TGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIVGPPTYGHNFILSNPSNTGI 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FSVKAOWLKONNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTLNKALGISTEGCTAPDVPS 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGD 267
                                                                                                                                                                                                                                                                                                                                 328 IKONNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTLNKALGISTEGCTAPDVPSEPVTTPP 387
EAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKYLDFIHVMTYDLHGSWEGYTGENSPL 207
                                                                                                                                                                                                                                                                                                                                                                 241 LKHNKFGGAMYWAIDLDDFTGTFCNQGKFPLISTLKKALGLQSASCTAPAQPIEPITAAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201 TGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVGFPEYGHTFILRNPSDNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [1]
SEQUENCE FROM N.A. McGel10548734;
MEDLINE-20018184; PubMed=10548734;
Saico A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Saico A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Saico A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Saico A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Saico A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A., Saico A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 56.4%; Score 1406.5; DB 4; Length 315; Best Local Similarity 78.0%; Pred. No. 3.1e-93; Matches 245; Conservative 34; Mismatches 32; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF01607; CBM 14; 1. Pfam; PF01607; CBM 14; 1. Proon prooved 1; 01yco hydro 18; 1. Probom, PD000471; G1yco-hydro 18; 1. SMART; SM00494; Chrisb2; 1. SWART; SMO494; Chrisb2; 1. SEQUENCE 315 AA; 33849 MW; 8D08DBB82C1268F0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, Created)
1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNY-2002 (TrEMBLrel. 21, Last annotation update)
Novel member of chitinase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SCDCCNW 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SCNCCNW 451
                                                                                                           808
                                                                                                                                                                                                                   268
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Q91298
                                          RESULT 11
P70201
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TAAVAGGISNIQAGYEIPELSKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAY 180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  262 VGFPAYGHTFILSDPSKTGIGAPTISTGPPGKYTDESGLLAYYEVCTFLNEGATEVWDAP 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
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                                          1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMONNEITTIEWNDVTLYKAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "A macrophage protein, Yml, transiently expressed during inflammation is a novel mammalian lectin.";
J. Biol. Chem. 276:17497-17506(2001).
EMBL, M94584; AAB62394.2;
MGD; MGI:1330860; Chi3l3.
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chang N.C.A., Hung S.I., Hwa K.Y., Kato I., Chen J.B., Liu C.H., Chang A.C.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 55.6%; Score 1387; DB 11; Length Best Local Similarity 66.2%; Pred. No. 1.1e-91; Matches 249; Conservative 55; Mismatches 72; Indels

        SIGNAL
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        21
        POTENTIAL.

        CHAIN
        22
        398
        SECRETORY PROTEIN.

        SEQUENCE
        398
        AA, 44458
        MW, C11187661B99DDD1 CRC64;

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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Secretory protein precursor.
CHI3L3 OR YMI.
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Pfam; PF00704; Glyco_hydro_18; 1.
Problom; PD000471; Glyco_hydro_18; 1.
                                                                                                                                     WAYYEICTFLRSGATEVWDASQ 301
                                                                                                                                                            241 WAYYEICTFLRSGATEVWDASQ 262
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SEQUENCE FROM N.A.
MEDLINE=21264517; PubMed=11297523;
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                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                   280
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SIGNAL
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PGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS 180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDAS 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22 YQLMCYYTSWAKDRPIEGSFKPGNIDPCLCTHLIYAFAGMQNNBITYTHEQDLRDYBALN 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         142 PGSRGSPPKDKHLFSVLVKEMRKAFEEESVEKDIPRLLLTSTGAGIIDVIKSGYKIPELS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMONNEITTIEWNDVTLYKAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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MEDLINE=20092902; PubMed=10625674;
Owhashi M., Arita H., Hayai N.;
Owhashi M., Arita H., Hayai N.;
a chitinase family protein.";
a chitinase family protein.";
D. Biol. Chem. 275:1279-1286(2000).
EMBL; D87757; BAA13458.
MGD; MGI:1330860; Chi313.
InterPro; IPR001223; Glyco_hydro_18.
Probom; PD00004; Glyco_hydro_18; 1.
Probom; PD000471; Glyco_hydro_18; 1.
SEQUENCE 398 AA; 44448 MW; 9D133FC490096793 CRC64;
                                                                                                                                                                                              Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NSB TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.3%; Score 1379; DB 11; Length 398; 66.0%; Pred. No. 4.1e-91; ive 55; Mismatches 73; Indels 0
                                                  Created)
Last sequence update)
Last annotation update)
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0191298,
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Secreted protein precursor Ym2.
Mus musculus (Mouse).
398
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                                                  01-FEB-1997 (TrEMBLrel. 02, 01-MAY-2000 (TrEMBLrel. 13, 01-MAR-2002 (TrEMBLrel. 20,
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PRELIMINARY;
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248; Conserv
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82 GLKDRNIELKTLLAIGGWKFGPAPFSSMVSTPONROTPIKSVIRFLRQYNFDGLNLDWQY 141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTS 360
                                                                                                                                                                                                                                                                                                                                                                                                                 SIDYIOWTYDLHDPKNGYTGENSPLYKSPYDIGKSADLNVDSIITYWKDHGAASEKLI 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          262 VGFPAYCHTFILSDPSKNGIGDPTVSAGPPGKYTNEOGILAYFEICTFLNEGATEIFDAT 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22 YQLMCYYTSWAKDRPTEGSFKPGNIDPCLCTHLIYAFAGMKNNEITYLSEQDLRDYEALN 81
                                                                                                                                                                        1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bufo japonicus (Japanese toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae; Bufo.
NCBI_TaxID=8387;
                                                                                                                                                                                                                                               61 DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                              KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thesis (2001), Department of Department of Biology, Waseda University
                                                                                                                                     Gaps
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                                                                                               55.1%; Score 1373; DB 11; Length 402; 65.3%; Pred. No. 1.1e-90; ive 61; Mismatches 69; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1371; DB 13; Length 488; Pred. No. 2e-90;
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                        Pfam; PF00704; Glyco hydro 18; 1.
ProDom; PD000471; Gl<u>y</u>co hydro 18; 1.
SEQUENCE 402 AA; 44975 MW; D935389319A59905 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL, AJ44054; CAC87888.1; -.
EMBL, AJ44054; CAC87888.1; -.
InterPro: IPR0012086; Aldehyde dehydr.
InterPro: IPR00159; Chitinase 18/2.
InterPro: IPR001523; Glyco_hydro_18.
Ffam; PF00170; CBM_14; 1.
FroDom; PD000471; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS00070; ADBHYDE DEHYDR CYS; UNKNOWN_1.
FROSITE; PS01095; CHITINASE 18; UNKNOWN_1.
Glycosidase; Hydrolase; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-UDN-2002 (TrEMBLrel. 21, Last annotation update)
Toad pancreatic chitinase (EC 3.2.1.14).
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                                                                                           Query Match
Best Local Similarity 65.3%
Matches 245; Conservative
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                        webb D.C., McKenzie A.N.J., Foster P.S.;
"Expression of the Ym2 Lectin-binding Protein Is Dependent on Interleukin (IL) -4 and IL-13 Signal Transduction. IDENTIFICATION OF NOVEL ALLERGY-ASSOCIATED PROTEIN.";
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxIb=10090;
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                                                                                                                                                                                                                                                                                                                                                                         ; Score 1376; DB 11; Length 398;
; Pred. No. 6.7e-91;
61; Mismatches 70; Indels 0;
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STRAIN=129/OLA;
Su W.B., Chang N.-C.A.;
Genomic organization of the ym2 gene.";
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases:
EMBL; AF461142; AAL66748.1;
InterPro; IPR001223; Glyco_hydro_18.
                                                                                                                                                                                                                                                                                                                                      79A74CA5CDA03850 CRC64;
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EMBL; AY049765, AAL03953.1; -
InterPro; IPR001223, Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18, 1.
ProDom; PD000471; Glyco_hydro_18; 1.
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Matches 245; Conservative
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                                                                                               STRAIN=BALB/C;
PubMed=11553626;
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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 Mismatches 128; Indels
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STRAIN=BALB/C, TISSUE=STOMACH;
Yang S.C., Su W.B.;
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   259; Conservative
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1 YNLICYFTHWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCHWP
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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Query Match Best Local Similarity

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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Cricetinae;
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Malatre B., Bleau G.;
"Biochemical Characterization of hamster oviductin as a sulphated zona pellucida-binding glycoprotein.";
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01-NOV-1997 (Rel. 35, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Oviduct-specific glycoprotain precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein) (2P-0).
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Suzuki K., Sendai Y., Onuma T., Hoshi H., Hiroi M., Araki Y.;
"Molecular characterization of a hamster oviduct-specific
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"Allelic polymorphism in the hamster oviductin gene is
variable number of mucin-like tandem repeats.";
Mol. Reprod. Dev. 42:388-396(1995)
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                     ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE
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Biochem. J. 295:437-445(1993)

-!- FUNCTION: BINDS TO COCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROL.

IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.

MIGHT ACT AS A PROTECTIVE SECRETION INFLUENCING THE FIRST STERSY

THE REPRODUCTIVE PROCESS NECESSARY FOR THE NORMAL TRIGGERING OP

FERTILIZATION AND EARLY EMBRYONIC DEVELOPMENT.
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                                                                                                                     SUBCELLULAR LOCATION: Secretory granules.
TISSUS SPECIFY: OVIDUCT.
PTW: HIGHLY O-GLYCOSYLATED AND ALSO N-GLYCOSYLATED.
SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OVIDUCT-SPECIFIC GLYCOPROTEIN.
8 X 15 AA TANDEM REPEATS.
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62; Mismatches 122; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C -> A (IN REF. 4).
H -> I (IN REF. 5).
D -> G (IN REF. 2 AND 3).
R -> Q (IN REF. 2 AND 3).
F -> Y (IN REF. 2 AND 3).
Q -> L (IN REF. 2 AND 3).
MISSING (IN REF. 2 AND 3).
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CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam, PF00704; Glyco hydro 18; 1.
ProDom; PD000471; Glyco hydro 18; 1.
PROSITE; PS01095; CHITINASE 18; FALSE NEG
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Interpro; IPR001223; Glyco hydro 18.
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204; Conservative
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671 AA;
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CHITINASE 18; FALSE NEG
  PROSITE; PS01095;
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                       Glycoprotein;
SIGNAL
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Q28042;
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                                                                                                                                                            316 HQYVPYAYKGKEWVGYDDAVSFSYKAMFVKKEHFGGAMVWTLDMDDVRGTFCGNGPFPLV 375
GRRLDFINVLSYDLHGSWEKSTGHNSPLFSLPEDPKSSA----FAMNYWRNLGAPADKL 256
                                            IVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDA
                                                                                         257 LMGFPAYGRTFHLLRESKNGLQAASMGPASPGKYTKQAGFLAYYEVCSFIQR-AEKHWID
                                                                                                                                    SQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKPPLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jaffe R.C.;
Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: BINDS TO COCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE
-!- FUNCTION: BINDS TO COCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE
-!- SUBCELLULAR LOCATION: Secretory granules.
-!- SUBCELLULAR LOCATION: OVIDUCT.
-!- SIMILARITY: BELONGS TO FAMILY 18 OF GLXCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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AriaB E.B., Verhage H.G., Jaffe R.C.;
"Complementary deoxyribonucleic acid cloning and molecular
characterization of an estrogen-dependent human oviductal
                                                                                                                                                                                                                                                     376 HILNELL-VRAEFNSTP-LPQFWFTLPVNSSGPGSES 410
                                                                                                                                                                                                                           360 STLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGGSS 396
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Interpro; IPR001223; Glyco hydro 18.
Pfam; PF00704; Glyco hydro 18; 1.
Probom; PD000471; Glyco hydro 18; 1.
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Biol. Reprod. 51:685-694(1994)
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                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
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60 NDLKNRNSKLKTLLAIGGWNFGTAPFTTWVSTSQNRQTFITSVIKFLRQYGFDGLDLDWE 119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           257 IMGIPTYGRTFRILKASKNGLQARAIGPASPGKYTKQEGFLAYFEICSFV-WGAKKHWID 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22 HKLVCYFTNWAHSRPGPASILPHDLDPFLCTHLIFAFASMNNQIVAKDLQDEKILYPEF 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAPAGMQNNEITTIEWND-VTLYKAF 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             316 YOYYDYANKGKEWVGYDNAISFSYKAWFIRREHFGGAMVWTLDMDDVRGTFCGTGPFPLV
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Biol. Reprod. 50:927-934(1994).
-!- FUNCTION: BINDS TO OOCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROI
-!- FUNCTION: BINDS TO PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT
                                        OVIDUCT-SPECIFIC GLYCOPROTEIN.
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
M -> T (IN REF. 2).
S -> P (IN REF. 2).
Y -> H (IN REF. 2).
Y -> H (IN REF. 2).
E -> Q (IN REF. 2).
E -> Q (IN REF. 2).
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oviduct-specific glycoprotein precursor (Oviductal glycoprotein) (Oviductin) (Estrogen-dependent oviduct protein) (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                Length 678;
                                                                                                                                                                                                                                                                                                                                                                                                            40.6%; Score 1013; DB 1; Length 6
48.8%; Pred. No. 4.1e-65;
cive 58; Mismatches 125; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
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Signal.
BY SIMILARITY
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MEDLINE=94257768; PubMed=8199272;
                                                                                                                                                                                                                                                                                                                                                        75421 MW;
   Fertilization;
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 48.8°
Matches 203; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                     511 5
514 5
676 6
678 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60 NDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWE 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82 NKLKERNRELKTILLSIGGWNFGTSRFTTWLSTFANREKFIASVISLLRTHDFDGLDLFFL 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120 YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240 IVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDA 299
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWND-VTLYKAF 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning of a recombinant complementary DNA to a baboon (Papio annbis) estradiol-dependent oviduct-specific glycoprotein."; Mol. Endocrinol. 5:356-364(1991).
-i- FUNCTION: BINDS TO COCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
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                                                                                                                         Verhage H.G., Fazleabas A.T., Mavrogianis P.A., O'Day-Bowman M.B. Donnelly K.M., Arias B.B., Jaffe R.C.; The baboon oviduct: characteristics of an oestradiol-dependent oviduct-specific glycoprotein."; Hum. Reprod. Update 3:541-552(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=91367180; PubMed=1716345;
Donnelly K.M., Fazleabas A.T., Verhage H.G., Mavrogianis P.A.,
Jaffe R.C.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -i- SUBCELLULAR LOCATION: Secretory granules.
-i- TISSUB SPECIFICITY: OVIDUCT.
-i- DEVELOPMENTAL STAGE: AT THE TIME OF OVULATION.
-i- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                            PRELIMINARY PARTIAL SEQUENCE FROM N.A.
                                                                TISSUE=Oviduct;
MEDLINE=98244335; PubMed=9584944;
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                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                           TISSUE=Oviduct
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                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120 YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL 179
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    254 LMGLPTÝGRTFHLLKASQNELRAQAVGPASPGKÝTKQAĞFLAYYEICCFVRR-AKKRWIN 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLT 359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 59
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01-JUN-1997 (Rel. 35, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
0viduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein).
Papio anubis (Olive baboon).
Eukaryota, Merazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 537;
                       -i- TISSUE SPECIFICITY: OVIDUCT.
-i- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Pred. No. 4.9e-65;
53; Mismatches 125; Indels
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399 399 N-LINKED (GLCNAC. . .) (PC
537 AA; 59617 MW; CPDCEE6F0212D791 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40.5%; Score 1010; DB 1; 49.2%; Pred. No. 4.9e-65;
SUBCELLULAR LOCATION: Secretory granules
                                                                                                                                                                                                                                                                                                                                                                               EMBL, D16639; BAA04065.1; -.
InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR001523; Glyco_hydro_18.
Fran; PR00704; Glyco_hydro_18; 1.
ProDom; P0000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NGGGlycoprotein; Fertilization; Signal.
SIGNAL .1
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Matches 203; Conservative
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NCBI_TaxID=9555;
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Sus scrofa (Pig)
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SEQUENCE OF 10-539 FROM N.A.

SEQUENCE OF 10-539 FROM N.A.

MEDINES-6239210; PubMed=8726871;

MARSHALI J.T.A., Nancarrow C.D., Brownlee A.G.;

"Cloning and sequencing of a cDNA encoding an ovine ostrus-associated oviducal protein.";

Reprod. Fertil. Dev. 8:305-310(1996).

"IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT."

"IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT."

"I SUBCELULAR LOCATION' Secretory granules."

"I TISSUE SPECIFICITY. OVIDUCT. OF PREGNANCY, WHEN GAMETE TRANSPORT AND FRITILIZATION OCCURS IN THE E2-DOMINATED FALLOPPAN TUBE. LEVELS.

"EDUCTION ON DAY 1 OF PREGNANCY, WHEN GAMETE TRANSPORT OF THE E2-DOMINATED THICKNEY. OF PREGNANCY COINCIDENT WITH TRANSPORT OF THE EMBRYO FROM THE OVIDUCT TO THE UTERING, A REPRODUCTIVE STAGE

"SASCIATED WITH RISING PROGESTERONE LEVELS."

"SASCIATED WITH RISING PROGESTERONE LEVELS."

"SASCIATED WITH RISING PROGESTERONE LEVELS."
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or send an email to license@lsb-sib.ch).
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316 YQYVPYANKGKEWVGYDDAISFSYKAWFIRREHFGGAMVWTLDMDDVRGTFCGTGPFPLV 375
                                                                                                                                                                                                                                                                                                                                                            Desouza M.M., Murray M.K.; "An estrogen-dependent secretory protein, which shares identity with chitinases, is expressed in a temporally and regionally specific manner in the sheep oviduct at the time of fertilization and embryo
                                                                                                                 OCP SHEEP STANDARD; PRT; 539 AA.

Q28542; Q28843;
01-NOV-1997 (Rel. 35, Created)
30-MAY-2000 (Rel. 35, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductal) (Estrogen-dependent oviduct protein) (Estrus-associated oviducal glycoprotein) (OEGP).
                                                                                                                                                                                                                                       Ovis aries (Sheep).

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinee; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., AND SEQUENCE OF 22-39.
                                                                                                                                                                                                                                                                                                                                                MEDLINE=95269691; PubMed=7750470;
                                                                                                                                                                                                                                                                                                                                                                                                                             Endocrinology 136:2485-2496(1995)
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                          360 STLNKAL 366
                                                   376 YVMNDIL 382
                                                                                                       OGP_SHEEP
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDA 299
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60 NDLKNRNSKLKTLLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWE 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22 HKLVCYFTWWAFSRPGSASILPRDLDPFLCTHLVFAFASWNNQIVPKDPLDEKILYPEF 81
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STRAIN-YORKSHIRE X Duroc X Hampshire; TISSUE-Oviduct;
STRAIN-YORKSHIRE X Duroc X Hampshire; TISSUE-Oviduct;
STRAIN-YORKSHIRE-91031040;
SHOLL Alvarez I.M., Choi I., Cleaver B.D., Simmen F.A.;
Molecular cloning and characterization of an estrogen-dependent porcine oviductal secretory glycoprotein.";
Biol. Reprod. 55:1305-1314(1996)
-:- FUNCTION: BINDS-1314(1996)
-:- FUNCTION: BINDS TO GOOTTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                          1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMONNEITTIE-WNDVTLYKAF
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Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
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01-NOV-1997 (Rel. 35, Last sequence update)
15-UUN-2002 (Rel. 41, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein) (POSP-E3).
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    -i- TISSUE SPECIFICITY: OVIDUCT.
    -i- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.

                                                                                                                                                                                                                                                                                                                                                                62; Mismatches 115; Indels
13 13 M -> V (IN REF. 2).
282 282 A -> V (IN REF. 2).
375 375 A -> V (IN REF. 2).
484 484 R -> H (IN REF. 2).
520 520 I -> T (IN REF. 2).
539 AA; 59535 MW; F35000269987C193 CRC64;
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Matches 192; Conservative
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TISSUE=Cartilage;
MEDLINE=94064658; PubMed=8245017;
Hakala B.E., White C., Recklies A.D.;
"Human cartilage gp-39, a major secretory product of articular chondrocytes and synovial cells, is a mammalian member of a chitinase protein family.";
                                                                                                                                                                                                                                                        1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTL-YKAF
                                                                                                                                                                                                                                                                                                                                                                                                  180 SKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C3L1_HUMAN STANDARD; PRT; 383 AA.
P3622; P30923;
01-JUL-1993 (Rel. 26, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Chitinase-3 like protein 1 precursor (Cartilage glycoprotein-39) (GP-G139) (39 kDa synovial protein) (YKL-40).
                                                                                                                                                                                                                                  Gaps
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                                                                                  N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                          39.7%; Score 990.5; DB 1; Length 527; 48.2%; Pred. No. 1.2e-63; Artive 66; Mismatches 124; Indels 25;
                                          EMBL, U43490; AAA85445.1; -.
InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR001579; Chitinase_18/2.
Propon; PF00704; Glyco_hydro_18.
Probom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; PALSE_NEG.
Glycoprotein; Fertilization; Signal.
SIGNAL.
22 527 OVIDUCT-SPECIFIC GLYCOPROTEIN.
                                                                                                                                                                            327 AA; 58519 MW; 31B78F49CA2363A2 CRC64;
Usage
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          entities requires a license agreement (@ or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                  Matches 200; Conservative
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402
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 22-45.

MEDLINE=90128981; PubMed=2375755;

Myirkos P., Golds E.B.;

"Human synovial cells secrete a 39 kDa protein similar to a bovine minary protein expressed during the non-lactating period.";

"Human synovial cells secrete a 39 kDa protein similar to a bovine mamary protein expressed during the non-lactating period.";

"Human synovial cells secrete a 39 kDa protein similar to a bovine clock of the secrete a 39 kDa protein expressed during the non-lactating period.";

"Le provide a 39 kDa cope with changes in THE CAPACITY OF CELLS TO RESPOND TO AND COPE WITH CHANGES IN THEIR ENVIRONMENT.

--- SINGCELLULAR LOCATION: Extracellular.

--- TISSUE SPECIFICITY: PRESENT IN ARTICULAR CHONDROCYTES, SYNOVIAL CELLS AS WELL AS IN LIYER. UNDETECTABLE IN WUSCLE TISSUES, LUNG, PANCREAS, WONONUCLEAR CELLS, OR FIBROBLASTS.

--- PITM: GLYCOSYLATED.

--- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
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                                                                                                                                                     Rehli M., Krause. S.W., Andressen, R.; "Molecular characterization of the gene for human cartilage gp-39 (GH311), a member of the chitinase protein family and marker for late stages of macrophage differentiation."; Genomics 43:221-225(1997).
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N-LINKED (GLCNAC. . .) (POT
76ADD8298EEEC2D1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      min, college
InterPro; IPR001229; Chitinase 18/2.
InterPro; IPR001223; Glyco hydro_18.
Pfam; PR00704; Glyco hydro_18; J.
ProDon; PD000411; Glyco hydro 18; I.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
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Biol. Chem. 268:25803-25810(1993).
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EMBL; Y08374; CAA69661.1; -.
EMBL; Y08375; CAA69661.1; JOINED.
EMBL; Y08376; CAA69661.1; JOINED.
EMBL; Y08377; CAA69661.1; JOINED.
EMBL; Y08377; CAA69661.1; JOINED.
PIR, S10677; S10677.
PIR, A33162; A33162.
                                                                                                                                       MEDLINE=97386591; PubMed=9244440;
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60 60 N
383 AA; 42613 MW;
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Best Local Similarity 50.74
Matches 186; Conservative
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                                                                                                QHLDFISIMTYDFHGAWRGTTGHHSPLFRGQEDASPDRFSNTDYAVGYMLRLGAPASKLV 255
                           241 VGFPEYGHIFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDAS 300
                                                                                  QEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQG-KFPLT 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (SHORT ISOPORM).

TISSUE=Articular cartilage;

MEDLINES963.25055; Pubmed-08702629;

Hu B., Trinh K., Figueira W.F., Price P.A.;

"Isolation and sequence of a novel human chondrocyte protein related to mammalian members of the chitinase protein family.";

J. Biol. Chem. 271:19415-19420(1996).

-I ALTERNATIVE PRODUCTS: 2 ISOFORNS; A SHORT FORM (SHOWN HERE) AND A LONG FORM; MAY BE PRODUCTS BY ALTERNATIVE SPLICING.

-I TISSUE SPECIFICITY: HIGHEST EXPRESSION IN CHONDROCYTES, FOLLOWED BY SYNOVIOCYTES, LUNG AND HEART. NOT DETECTED IN BRAIN, SPLEEN, PANCREAS, AND LIVER.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Grossman A., Matsuyama T., Baker E., Waterhouse P., Sutherland G.R., Mak T.W.;
                                                                                                                                                                                                                                                                                                             (Chondrocyte protein
                                                                                                                                                                                                                                                                                                                                                            Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
NCBI TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHITINASE 3-LIKE PROTEIN 2. N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning of a novel lymphoid restricted human chitinase and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SIMILARITY: BELONGS TO PAMILY 18 OF GLYCOSYL HYDROLASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   localization to 1p13.3.";
Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                     C31.2 HUMAN STANDARD, PRT, 390 AA. 015782, 015783; 015749; 16-0CT-2001 (Rel. 40, Created) CCT-2001 (Rel. 40, Last sequence update) 16-0CT-2001 (Rel. 40, Last annotation update) Chitinase 3-like protein 2 precursor (XKL-39)
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (SHORT AND LONG ISOFORMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR001223; Glyco_hydro_18.
Pfam, PF000704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrolase; Signal; Alternatīve splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL, U58515; AAB04534.1; -.
EMBL, U58514; AAB04533.1; -.
EMBL, U49835; AAC50597.1; ALT_INIT.
Genew, HGNC:1933; CHI3L2.
MIM; 601526; -.
                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
                                                                                                                                                         : : ||
374 NAIKDAL 380
                                                                                                                                         360 STLNKAL 366
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                                                                                  301
                                                                                                                                                                                                                                                                                                                                         CHI3L2.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                        DLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KYLDFIHVMTYDLHGSWEG--YTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEK 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239 LIVGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWD 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           147 PDQK----ENTH-FTVLIHELAEAFQKDFTKSTKERLLLTAGVSAGRQMIDNSYQVEKLA 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299 ASQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPL 358
                                                                                                                                                                                                                                                                                         27 YKLVCYFTNWSQDRQEPGKFTPENIDPFLCSHLIYSFASIENNKVIIKDKSEVMLYQTIN 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN-TUB/N, TISSUE-Breast,
MCDLINE-95060797; PubMed=7970700;
MCDLINE-95060797; PubMed=7970700;
MCDLINE-95060797; PubMed=7970700;
MCDLINE-95060797; PubMed=7970700;
MCDLINE-95060797; PubMed=7970700;
MCDLINE-97407; PubMed=7970700;
MCDG-9740797; MAY PLAY AN IMPORTANT ROLE IN THE CAPACITY OF CELLS TO RESPOND TO AND COPE WITH CHANGES IN THEIR ENVIRONMENT (BY
MGATTMDQKSLW -> SQQLWLGSPDEVWLYLVCEHTHIFT
                                                                                                                                                                                                                                    1 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN
                                                                                                                                                                            Gaps
                              (IN LONG ISOFORM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Chitinase-3 like protein 1 precursor (cartilage glycoprotein-39)
(GP-39) (BRP39 protein).
                                                                                                                                                                            <u>.</u>
                                                                                                                     DB 1; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: Extracellular (By eimilarity). SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES
                                                                                                                  38.0%; Score 948.5; DB 1; Length 47.7%; Pred. No. 8.2e-61; tive 76; Mismatches 108; Indels
                                                       97B86A2F3AA35677 CRC64;
                        ALIWDSRTRFGSTDFSFHPSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          381 AA
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                                                             43500 MW;
                                                                                                         38.04
Best Local Similarity 47.7<sup>5</sup>
Matches 176; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
      27
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                                                             390 AA;
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Mus musculus (Mc
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
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   VARSPLIC
                                                             SEQUENCE
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us-10-004-219b-9.rsp

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modified and this statement is not removed.
                                             EMBL; U42835; AAA83586.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=7130;
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P36362;
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                                                                                                                                                                                                                                                                                                 120 YPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPEL 179
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                                                                                                                                                                                                                                                                 YPRLR-----DKQYFSTLIKELNAEFTKE-VQPGREKLLLSAALSAGKVAIDTGYDIAQI
                                                                                                                                                                                                                                                                                                                                                SKYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKL
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                                                                                                                                                                                                                                                                                                                                                                                                          314 NEKVPPATKGNQWVGYEHKESVKNKVGFLKEKKLAGAMVWALDLDDFQGTCQPKEFFPLT
                                                                                                                                                                                                     YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIYAFAGM-QNNEITTIEWNDVTLYKAF
                                                                                                                                                                                                                             YKLVCYFTSWSQYREGVGSFLPDAIQPFLCTHIIYSFANISSDNMLSTWEWNDESNYDKL
                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (DEC-1995) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-acetyl-D-glucosamine polymers of chitin.
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOS HYDROLASES).
                                                                                                                                                                              6
                                                                                                       CHITINASE-3 LIKE PROTEIN 1.
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                      Length 381;
                                                                                                                                                      35.8%; Score 892.5; DB 1; Length 46.0%; Pred. No. 8.1e-57; Live 76; Mismatches 113; Indels
                                                                                                                       -LINKEU (GLCNAC. . .) (PC
EF6581E8184F0450 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Putative endochitinase (EC 3.2.1.14).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ą
         MGD; MGI:1340899; Chi311.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001523; Glyco_hydro_18.
Pfam; PF00704; Glyco hydro 18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
                                                                                                                                381 AA; 43001 MW;
CAA63603.1;
                                                                                                                                                                   Best Local Similarity 46.04
Matches 169; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                         381
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NAIKDAL 380
                                                                               Glycoprotein; Signal SIGNAL
                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=Bristol N2;
Nhan M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=6239;
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ID CHIT_CAEEL
AC Q11174;
                                                                                                                  CARBOHYD
SEQUENCE
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and for commercial
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                              (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAPAEKLIVGFPEYGHTFILRNPSDNGIGAPTSGDGPA--GAYTRQAGFWAYYEICTFLR 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       291 SGATEVWDASQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSF 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         116 LDWEYPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYE 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       176 IPELSKYLDPIHVMTYDLHGSWEGYTGENSPLY---KYPTETGSNAYLNVDYVMNYWKNN 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDQGK---FPLTSTLNKALG---ISTEG--CTAPDVPSEPVTT--PPGSGSGGGSSGG-- 398
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                                                                                                                                                      R Wormbep; CG4F6.3; CEC03923.
R InterPro; IPR0012557; Chitin bind PerA.
InterPro; IPR0012579; Chitinael 18/2.
R InterPro; IPR001253; Glyco_hydro_18.
R Pfam; PF00104; Glyco_hydro_18; 1.
R Pfam; PF01067; CBM 14; 2.
R PF0000, PD000471; Glyco_hydro_18; 1.
SMART; SM00494; ChtBD2; 2.
R PROSITE; PS01095; CHITINASE 18; 1.
R Mypothetical protein; HydroTase; Glycosidase; Chitin degradation.
T ACT_SITE 179 179 PROTON DONOR (BY SIMILARITY).
T ACT_SITE 179 179 PROTON DONOR (BY SIMILARITY).
C SEQUENCE 617 AA; 66857 MW; DDA1D2AAAC0E54DA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-FBE-1995 (Rel. 31, Last annotation update)
01-FBE-1995 (Rel. 31, Last annotation update)
Endochitinase precursor (EC 3.2.1.14).
Manduca sexta (Tobacco hawkmoth) (Tobacco hornworm)
Eukaryota, Metazoa, Arthropoda, Mandibulata, Pancrustacea, Hexapoda
Insecta, Pterygota, Noptera, Endopterygota, Lepidoptera; Glossata,
Ditrygia, Sphinglodea, Sphinglae, Sphinginae, Manduca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1; Length 617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match 35.7%; Score 889.5; DB 1; Length Best Local Similarity 39.6%; Pred. No. 2.5e-56; Matches 190; Conservative 74; Mismatches 169; Indels
Usage by
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Kramer K.J., Corpuz L., Choi H.K., Muthukrishnan
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                              entities requires a license agreement (Sons send an email to license@isb-sib.ch).
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Repeat; Glycoprotein; Calcium-binding
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    expression of the gene encoding epidermal and
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ENDOCHITINASE.
SER/THR.AICH.
PROTON DONOR (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                               gene of
                                                                                                                                                              insect molting enzyme, chitinase.";
Insect Blochem. Mol. Biol. 27:37-47(1997).
-!- FUNCTION: DIGEST CHITIN IN THE EXOSKELETON DURING THE MOLTING
PROCESS.
                                                                                                                                                                                                                                                -!- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-
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PROSITE; PS01095; CHITINASE 18; 1.
Hydrolase; Glycosidase; Chitin degradation; Signal; Glycoprotein.
                                                                               SEQUENCE FROM N.A.
MEDLINE=97215580; PubMed=9061927;
Choi H.K., Choi K.H., Kramer K.J., Muthukrishnan S.;
"Isolation and characterization of a genomic clone for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-LINKED (GLCNAC. . .) (PC
3989D756C96CD490 CRC64;
                     Jut Chitinases of Manduca sexta.";
Insect Biochem. Mol. Biol. 23:691-701(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR002557; Chitin bind PerA. InterPro; IPR001579; Chitinase 18/2. InterPro; IPR001223; Glyco hydro 18. Pfam; PF00704; Glyco hydro 18; 1. Pfam; PF00707; CBM 14; 1.
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  and
"Sequence of a cDNA
gut chitinases of Ma
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                                                   DDSGWTKKWDEQGKCPYAYKGTQWVGYEDPRSVEIKMWWIKQKGYLGAMTWAIDMDDFQG 379
                                                                                                                                                                                                                                                                                                                                    382
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236 AEKLIVGFPEYGHTFILRNPSDN-GIGA---PTSGDGPAGAYTRQAGFWAYYEICTFL-- 289
                                                                                                                                                               -RSGATEVWDASQEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTG 348
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"Transmission-blocking antibodies recognize microfilarial chitinase
in brugian lymphatic filariasis.",
Proc. Natl. Acad. Sci. U.S., 89:1548-1552(1992).
-1- FUNCTION: THE MF1 ANTIGEN IS A MICROFILARIAL CHITINASE, WHICH MAY
FUNCTION: TO DEGRADE CHITIN-CONTAINING STRUCTURES IN THE MICRO-
FILARIA OR IN ITS MOSQUITO VECTOR DURING PARASITE DEVELOPMENT AND
TRANSMISSION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPOND
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MISCELLANEOUS: KNOWN TO BIND CALCIUM.
SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    398 GSSGGSGFCADKADGLYPVADDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNWP 452
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acety1-bglucosanine polymers of chitin.
-1- DEVELOPMENTAL STAGE: THE APPEARANCE OF THE MF1 ANTIGEN CORRESPON
WITH THE ONSET OF THE PARASITE'S ABILITY TO INFECT THE MOSQUITO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bukāryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;
Onchocercidae; Brugia.
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Hydrolase; Glycosidase; Chitin degradation; Signal; Antigen;
                                                                                                                                                                                                                                                                                                                                    -----EGCTAPDVPSEP
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01-DEC-1992 (Rel. 24, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
Endochitinase precursor (EC 3.2.1.14) (MFl antigen)
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InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco_hydro_18.

Pfan; PF00704; Glyco_hydro_18; 1.

Pfam; PF01607; CBM_14; 1.
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SMART; SM00494; ChtBD2; 1.
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                                                                                                                                                                    58 AFNDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFLRQYGFDGLDLD
                                                                                                                                                                                WEYPGSRGSPPQDKHLFTVLVKEMREAFEQEA1ESNRPRLMVTAAVAGGISNIQAGYEIP
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                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Watanabe T., Suzuki K., Oyanagi W., Ohnishi K., Tanaka H.; "Gene cloning of chitinase A1 from Bacillus circulans WL-12 revealed its evolutionary relationship to Serratia chitinase and to the type III homology units of fibronectin.";
                                      3 X 14 AA APPROXIMATE TANDEM REPEATS.
PROTON DONOR (BY SIMILARITY).
MW; A78BE7BFB8E3709B CRC64;
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WEDLINE-93366760; PubMed-8103047;
Watanabe T., Kohori K., Miyashita K., Fujii T., Sakai H.,
Wothida M., Tanaka H.;
"Identification of glutamic acid 204 and aspartic acid 200
                                                                                   Score 810; DB 1; Length 504;
Pred. No. 9.5e-51;
                                                                                           ; Pred. No. 9.5e-51; 71; Mismatches 198; Indels
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                   CATALYTIC.
SER/THR-RICH (LINKER).
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01-FEB-1995 (Rel. 31, Last annotation update)
Chitinase Al precursor (EC 3.2.1.14).
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401 4
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148 1
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Matches 168;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    326 VPAAKLVLGVPFYGRGWDGCAQAGNGQYQTCTGGSSVG--TWEAGSFDFYDLEANYINKN 383
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80; Mismatches 156; Indels 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1; Length 699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 001095; CHITINASE 18; 1.
Glycosidase; Chitin degradation; Signal; Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 YNLICYFINWAQYRPGLGSFKPDDINPCLCTHLIYAFAGM-----
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D->E: NO CHANGE IN ACTIVITY
E->D, Q: LOSS OF ACTIVITY.
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Interpro; IPR001579; Chicinase_18/2.
Interpro; IPR003961; FN III.
Interpro; IPR003962; PnIII repeat.
Interpro; IPR001223; Glyco_hydro_18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PRO0014; FNTYPEIII.
ProDom, PD000471; G1ycc_hydro_18; 2.
SMART; SM00495; ChtBD3; 1.
SMART; SM00060; FN3; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00041; fn3; 2.
Pfam; PF00704; Glyco hydro 18; 1.
Pfam; PF02839; CBM 5 12; 1.
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204
200
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89 AA;
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SIGNAL
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GATEVWDASQEVPYAYKAN--EWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGS 349
                               -I. CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-acetyl-D-glucosamine polymers of chitin.
-I. SUBCELLULAR LOCATION: Secreted.
-I. SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 35-67 FROM N.A., AND SEQUENCE OF 35-67.
MEDLINE=92136437; PubMed=1735126;
Blaatseau P.-L., Kunz C., Grison R., Bertheau Y., Brygoo Y.;
Eloning and expression of a chitinase gene from the hyperparasitic fungus Aphanocladium album.";
                                                                                                    403
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Fungi; Ascomycota; mitosporic Ascomycota; Aphanocladium.
VCBI _TaxID=12942;
                                                                                                    350 FCDQGKFPLTSTLNKALGISTEGCTAPDVPSEPVTTPPGSGSGGGSSGGS
                                                                                                                               Blaiseau P.-L., Lafay J.-F.;
"Primary structure of a chitinase-encoding gene (chil) from the
filamentous fungus Aphanocladium album: similarity to bacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 18.7%; Score 466.5; DB 1; Length 423; Best Local Similarity 30.0%; Pred. No. 3e-26; Matches 115; Conservative 64; Mismatches 157; Indels 47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18; 1.
Probom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE 18; 1.
Hydrolase; Glycosidase; ChiEin degradation; Signal; Zymogen. SIGNAL.
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CHITINASE 1.
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FSDFB25B73443F31 CRC64;
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01-NOV-1997 (Rel. 35, Last annotation update)
Chitinase 1 precursor (EC 3.2.1.14).
                                                                                                                                                                                                                                                                                    423 AA
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MEDLINE=93013040; Pubmed=1398137;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             274 QAYINGGVPANKIVLGMPIYGRSF----QQTEGIGKPYNGIG-SGSW--ENGIMDYKAL- 325
                                                                     DV----TLYKAFNDLKNRNSKLKTLLAIGGWNFGTAPFTTMVSTSQNRQTFITSVIKFL 106
                                                                                                             ROYGFDGLDLDWEYPGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGG 166
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               287 TFLRSGATEVWDASQEVPYAY--KANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLD 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           326 --PRAGATVKCDDTAKGCYSYDPSTKELISFDTPAMISTKVSWLKGKGLGGTMFW---- 378
43 YFTNWGIYG---RNFQPADLPASEITHVLYSFMNVRADGTIFSGDTYADYEKHYAGDSWN 99
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GenCore version 5.1.6 Copyright (c) 1993 -. 2003 Compugen Ltd.

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-MODEL=frame+ p2n.model -DEV=xlp
-Q=/Cgn2 1/USFTO spool/US10004219/runat 24062003 160228 8173/app query.fasta_1.1877
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-LOOPEXT=0-COPMT=fastap -SUFFTX=rst -MINMATGH=0.1 -LOOPCL=0 -LOOPEXT=45
-DOCALIGN=200 -THR SCORE=pct -THR MAX=lOO -THR MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=ptc -NORM=ext -HEAPSIZE=500 -MINNEN=0 -MAXLEN=200000000
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-DEV TIMEOUT=120 -WARN TIMEOUT=90 -THR CARAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DBLOP=6 -DBLEXT=7
                                           June 29, 2003, 21:10:28; Search time 1489.73 Seconds (without alignments) 4913.891 Million cell updates/sec
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1 YNLICYFTNWAQYRPGLGSF.....QQHCQAGLVFDTSCNCCNWP 452
OM protein - nucleic search, using frame plus p2n model
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Listing first 45 summaries
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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17. 1438
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                                  Please visit our web site (http://genome.gsc.riken.go.jp/) for
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/note="putative"
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                                                                                                                                                                                           Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
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carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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Mus musculus adult male stomach CDNA, RIKEN full-length enriched library, clone:2210020N23:chitinase, acidic, full insert sequence. AK008757.1 GI:12843148
HTC; CAP trapper
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Nature 409 (6821), 685-690 (2001)
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High-efficiency full-length cDNA cloning
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Genomic Sciences Center and Genome Science Laboratory in RIKEN.

Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. First strand cDNA was primed with a primer IS AGAGAGAGAAGACTCTTTTTTTTTTTTTTVTY 31, cDNA was prepared by using trebalose thermo-activated reverse transcriptase and subsequently enriched for full-length by cap-trapper. cDNA went through one round of normalization to Rot = 5.0 and Subtraction to geguence [5].
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Submitted (10-UUL-2000) Yoshihide Hayashizaki, The Institute of
Physical and Chemical Research (RIKEN), Laboratory for Genome
Exploration Research Group, RIKEN Gemomic Sciences Center (GSC),
RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
URL: http://genome.gsc.riken.go.jp,
Pax: 81-45-503-9216)
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/clone_lib="RIKEN full-length enriched mouse cDNA library"
/dev_stage="adult"
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further details.
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Matches:
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    1535
    organism="Mus musculus"

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Pred. No.:
Score:
Percent Similarity:
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983 TAAGTGCCCTATGCCTATAAGGCCAACGAGTGGCTTGGCTATGACAATATCAAGAGCTTC 1042
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               263 TTGAAAAACAGGAACAGCAAACTGAAAAACCCTCCTGGCAATTGGAGGCTGGAACTTTGGA 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThralaProPheThrThrMetValSerThrSerGlnAsnArgGlnThrPheIleThrSer 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      323 ACTGCTCCTTTCACTACCATGGTTTCCACTTCTCAGAACCGCCAGACCTTCATTACCTCA 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaProThrSerGlyAspGlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAla 281
                                                                                                                                                                                    202
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ValileLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyrPro 121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            162 AlaValAlaGlyGlyIleSerAsnIleGlnAlaGlyTyrGluIleProGluLeuSerLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGATTATGTCATGAACTATTGGAAGAACAATGGAGCCCCAGCTGAGAAGCTCATTGTT
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                                                                                                                                                                                                                                                                                                             143 CCTGATGACATTAACCCCTGCCTGTGTACTCACCTGATCTATGCCTTTGCTGGGATGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         383 GTCATCAATTTCTGCGTCAGTATGGGTTTGATGGACTGGACTGGACTGGGACTGGGATTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   142 ArgGluAlaPheGluGluGluAlaIleGluSerAsnArgProArgLeuMetValThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TACTATGAGATTTGCACCTTTCTGAGAAGTGGAGCCACTGAGGTCTGGGGATGCCTCCCAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GECTCACGTGGGGGGCCCTCCTCAGGACAAGCATCTTCATCTTCACTGTCCTGGTGAAGGAAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              623 TACCTGGATTTCATCCATGTCATGACATATGACCTCCATGGCTCCTGGGAGGGCTACACT
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                                                                                                                                                    AsnLeulleCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlySerPheLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuLysAsnArgAsnSerLysLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGTGAAGCTTTTGAGCAGGCAGGCTATTGAGAGCAACAGCCCAGACTGATGGTTACTGCT
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Quackenbush, J., Schriml, L.M., Staubli, F., Suzuki, R., Tomita, M., Wagner, L., Washio, T., Sakai, K., Okido, T., Furuho, M., Aono, H., Wagner, L., Washio, T., Sakai, K., Okido, T., Furuho, M., Aono, H., Baldarelli, R., Bassh, G., Blake, J., Boffelli, D., Bojunga, N., Carninci, P., Ge Bonaldo, M.F., Brownstein, M.J., Bult, C., Fulli, D., Hofmann, M., Hume, D.A., Kamiya, M., Lee, N. H., Lyons, P., Hill, D., Marchionni, L., Mashima, J., Mazzarelli, J., Mombaerte, P., Nordone, P., Singwald, M., Rodriguez, I., Sakamoto, N., Sasaki, H., Sato, K., Schonbach, C., Seya, T., Shibata, Y., Storch, K.F., Suzuki, H., Toyo-oka, K., Wang, K.H., Weltz, C., Whittaker, C., Wilming, L., Wynshaw-Boris, A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S. and Hayashizaki, Y.

Functional annotation of a full-length mouse cDNA collection butter of 6621), 665-690 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S Adachi, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Carnini, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hramcho, K., Haraka, T., Horai, F., Hume, D., Imotani, K., Ishii, Y., Itoh, M., Izawa, M., Kosukawa, T., Kato, H., Kawai, J., Kojima, Y., Konda, M., Koyas, K., Kurihara, C., Matsuyama, T., Miyazaki, A., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, J., Saito, H., Saito, R., Sahai, C., Sakai, K., Sano, H., Saakai, C., Sakai, K., Sano, H., Sabaki, D., Schrim, L., Shibata, K., Shibata, Y., Shinagawa, A., Takahashi, F., Tanaka, T., Tejima, Y., Toya, T., Yamamuka, I., Yamanaka, I., Yasunishi, A., Yoshida, K., Yoshino, M., Muramatsu, M. and
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1. .1534
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (10-JUL-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Sangawa 230-0045, Japan (E-mail:genome-resegnc.riken.go.jp, URL:http://genome.gsc.riken.go.jp, Tel:81-45-503-9216)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Please visit our web site (http://genome.gsc.riken.go.jp/) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Mus musculus"
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383 c 374 q 399
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ORIGIN
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Mus musculús adult male stomach cDNA, RIKEN full-length enriched library, clone:2200008L17:chitinase, acidic, full insert sequence. AK008650
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (strain:C57BL/6J) adult male stomach cDNA to mRNA, clone 1b:RIKEN full-length enriched mouse cDNA library clone:2200008L17.
Mus musculus
   AspLeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSerThr
                                                                1103 GACCTTGATGACTTCACTGGCTCTTTCTGTGATCAGGGAAAATTTCCTCTGACTTCTACT
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                                                                                                                                                                                                                                                                                                                                                                                 GlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrProValAlaAspAspArgAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         422 AlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHisCysGlnAlaGlyLeuVal
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PheSerValLysAlaGlnTrpLeuLysGlnAsnAsnPheGlyGlyAlaMetIleTrpAla  TTCAGTGTTAAGGCTCAGTGGCTTAAGCAGAACAATTTTGGAGGTGCCATGATCTGGGGC  IleAspLeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSer	401 401 1278 421 1338 441 1398	AK007573  AK007573  AK007573  IS30 bp mRNA linear HTC 19-JAN-2002  ION Mus musculus 10 day old male pancreas cDNA, RIKEN full-length enriched library, clone:1810021D23:chitinase, acidic, full insert sequence.  AK007573.1  AK007573.1  AK007573.1  AK007573.1  AK007573.1  AK007573.1  ISM musculus (strain:C57BL/6J) 10 day old male pancreas cDNA to clone:1810021D23.  ISM musculus  Elenaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Elenaryota, metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.  RS Carninci, Ps. and Hayashizaki, Y.  RS Carninci, Ps. and Hayashizaki, Y.  Righ-efficiency full-length cDNA cloning  AL Meth. Enzymol. 303, 19-44 (1999)	
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Alzawa, K., Tazwa, M., Nishi, K., Kiyoswa, H., Kondo, S., Yamanaka, I., Radota, K., Yizawa, M., Nishi, K., Kiyoswa, H., Kondo, S., Yamanaka, I. Saito, T., Okazaki, Y., Gojobori, T., Bono, H., Kasukawa, T., Saito, R., Kadota, K., Matsuda, H., Sabhurner, M., Batalov, S., Casavant, T., Fleischmann, W., Gasterland, T., Gissi, C., King, B., Kochiwa, H., Kuehl, P., Lewis, S., Matsuo, Y., Nikaido, I., Pesole, G., Quackenbush, J., Schriml, L.M., Staubli, F., Sturki, R., Tomita, M., Magner, L., Washio, T., Sakai, K., Okido, T., Furuno, M., Aono, H., Baldarelli, R., Barsh, G., Blake, J., Boffelli, D., Bolinga, N., Carninci, P., de Bonaldo, M.F., Brownstein, M.J., Bult, C., Fujita, M., Gariboldi, M., Gustincich, S., Hill, D., Hofmann, M., Hume, D.A., Kamiya, M., Lee, N. H., Lyons, P., Marchionni, L., Mashima, J., Mazzarelli, J., Mombaerts, P., Nordone, P., Ring, B., Ringwald, M., Rodriguez, T., Sakamoto, N., Sasaki, H., Sato, K., Schonbach, C., Seya, T., Shibata, Y., Storch, K.F., Suzuki, H., Toyo-oka, K., Wang, K.H., Weitz, C., Whittaker, C., Wilming, L., Wynshaw-Boris, A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S. and Hayashizaki, Y., Rung, B., K., Wang, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S. and Hayashizaki, Y. Burtional annotation of a full-length mouse cDNA collection
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S. Adadni, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Hume, D., Imotani, K., Ishij, Y., Itoh, M., Izawa, M., Kasukawa, T., Kato, H., Kawai, J., Kojima, Y., Konima, Y., Konima, Y., Konima, Y., Konima, Y., Nomura, K., Nomura, K., Nomura, K., Nomura, K., Sato, H., Saito, R., Sakai, C., Quackenbush, J., Saito, H., Saito, R., Sakai, C., Sakai, D., Schriml, L., Shibeta, K., Shibata, Y., Shinagawa, A., Takahashi, P., Tanaka, T., Tejima, Y., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshida, K., Yoshino, M., Muramatsu, M. and
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Submitted (10-JUL-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Grupp, RIKEN Gemomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230 0045, Japan (E-mail:genome-res@gsc.riken.go.jp, WIR:http://genome.gsc.riken.go.jp/, Tel:81-45-503-9222,
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Db 915 GCCTACTATGAGATTGCACCTTTCTGAGAAGTGGAGCCACTGAGGTCTGGGATGCCTCC 974	301 GlnGluValProTyralaTyrLysAlaAsnGluTrpLeuGlyTyrAspAsnIleLysSer	rneservallysalaginitpleurysginasnashroetyclyalameti 	Oy 341 IleAspLeuAspAspPheThrGlySerPheCysAspGlnGlyLysPheProLeuThrSer 360	361 ThreedsnbysAlaleuGlyIleSerThrGluGlyCysThrAlaProAspValProSer	Db 1155 ACTTONIAN TOTAL THAT THE TATAL CACABAGET CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT CACABACT	1215 GAGCCAGTACTACTCCTCCAGGAAGTGGGGGTGGGAGGAGGAGGAAGCTCTCTCT	Oy         401 GlyGlySerGlyPheCysAlaAspLysAlaAspGlyLeuTyrProValAlaAspArg 420           Db         1275 GGAGGCAGTGGATTCTGTGCCGACAAAGCAGATGGCCTCTACCCTGTGGCAGATGACAGA 1334	Oy 421 AsnAlaPheTrpGlnCysIleAsnGlyIleThrTyrGlnGlnHisCysGlnAlaGlyleu 440	441 ValPheAspThrSerCysAsnCysCysAsnTrpPro 452	Db 1395 GTTTTGATACCAGCTGTAATTGCTGCAACTGGCCA 1430 RESULT 5	-		ORGANISM Mus musculus Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus. REPERENCE 1 (bases 1 to 892)		Email: cgapbs-r@mail.nih.gov Tissue Procurement: Jeffrey E. Green, M.D. CDNA Library Preparation: Life Technologies, Inc.	COUNT LIDITALY ALLAYED BY: THE I.M.A.G.E. COUNDILLIM (LAWL)  DNA Sequencing by: Agencourt Bioscience Corporation  Clone distribution: MGC clone distribution information can be found through the T.M.A.G.E. Consertium/JIAN, at.	http://image.lln.gov Plate: LlAM13305 row: k column: 05	High quality sequence stop: 772.  FEATURES Location/Qualifiers  Source 1892	/organ.sm="Mus musculus" /db_xref="taxon:10000" /cl_one="lmAGE:6051580" /cl_one=lib="MaT Cap e:1"	/lab.host="DH10B (T1-resistant)" /note="Organ: stomach; Vector: pCMV-SPORT6; Site 1: Sall;	<pre>Site_2: Not1; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.77 kb. Library constructed by Life Technologies. Note: this is a NCI_CGAP Library."</pre>	

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ISM Mus muscaulus

Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,

Bukaryota, Metazoa, Chordata, Craniata, Vertebrata,

Eukaryota, Metazoa, Chordata, Craniata, Vertebrata,

Eukaryota, Metazoa, Chordata, Sciurognathi, Muridae, Musna.

I (bases 1 to 838)

RS NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Inpublished (1999)

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Tissue Procurement: Jeffrey E. Green, M.D.

Contact: Robert Strausberg, Ph.D.

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Tissue Procurement: Jeffrey E. Green, M.D.

CONA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LINL at:

http://image.llnl.gov

Plate: LiAM10816 row: g column: 09

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/note="Organ: salivary gland; Vector: pCMV-SPORT6; Site 1:
Not1; Site 2: Sali, Cloned unidirectionally. Primer: Olīgo
dT. Average insert size 1.3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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Mus musculus

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Musmanla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Musmanlai; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1 (Dases) 1 to 809)

S NIH-MGC http://mgc.nci.nih.gov/

National Institutes of Health, Mammalian Gene Collection (MGC)

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Contact: Robert Strausberg, Ph.D.

Emall: cgapbs-r@mail.inh.gov

Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/Libl at:

http://image.llnl.gov

Plate: LiAMl0813 row: h column: 14

High quality sequence stop: 804.
BOB DP MENA linear EST 29-MAY-2001
602785352F1 NCI_CGAP_SG2 Mus musculus CDNA clone IMAGE:4911421 5',
mENA sequence.
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BUKARYOLA: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Musmalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Musonal Interprive of Health, Mammalian Gene Collection (MGC)
National Institutes of Health, Mammalian Gene Collection (MGC)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Deffrey B. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be http://image.llh.gov
Plate: LLAM10812 row: e column: 07
High quality sequence stop: 792.
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843 bp mRNA linear EST 29-MAY-2001
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SerValIleLysPheLeuArgGlnTyrGlyPheAspGlyLeuAspLeuAspTrpGluTyr
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/note="Corporation of the content of the content of the corporation of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the 
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
L Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Proqurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/Linn at:
http://image.lln.gov
Plate: LLAM13305 row: g column: 11
High quality sequence stop: 724.
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AGENCOURT 7578230 NCI CGAP Stl Mus musculus CDNA clone
IMAGE:6051490 5', mRNA sequence.
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IGM Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bumanialia; Eutheria; Rodentia; Sciurognathi; Murinae; Mus.

I (Dases 1 to 923)

National Institutes of Health, Mammalian Gene Collection (MGC)
National Institutes of Health, Mammalian Gene Collection (MGC)

Ontact: Robert Strausberg, Ph.D.
Email: Gapbbs-romainin.gov

Tissue Procurement: Jeffrey Green M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CLONE distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAMI1899 row: n column: 08
High quality sequence stop: 795.
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                                                                                                              ProGlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValLysGlu 140
                                                                                                                                                                                                                                                                                                                                                                                                                             LysTyrLeuAspPheIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyr 200
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368 TCAGTCATCAAATTTCTGCGTCAGTATGGGTTTGATGGACTGGACCTGGACTGGGAATAC 427
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/clone lib="NCI CGAP_Mam6"
/sex="Female, virgin"
/dev_stage="5 months"
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/lab_host="DH10B"
/note="Organ: mammary; Vector: pCMV-SPORT6; Site_1: Sal1;
Site_2: Not1; Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Jeffrey Green, M.D., NIH"
a 232 c 241 g 229 t
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Computer Jossew methods for the mouse Lilling Computer Jossew methods for construction of a nonredundant cDNA library. Genome Res. . 11 (2), 281-289 (2001) Knodo, S., Shinagawa, A., Saito, T., Kiyosawa, H., Yamanaka, I., Aizawa, K., Eukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and Hayashizaki, Y. Genome Res. . 12, 673-677 (2001) Please visit our web site (http://genome.gsc.riken.go.jp/) for computational hallysis of Full-Length Mouse CDNAs Compared with Human Genome Sequences Mamm. Genome. 12, 673-677 (2001) Please visit our web site (http://genome.gsc.riken.go.jp/) for cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues.
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/note="Organ: mammary gland; Vector: pT713D-Pac (Pharmacia ) with a modified polylinker; Site_1: Not I; Site_2: Eco PI; lat strand cDNA was primed with a Not I - oligo(dT) primer [5'
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URL:http://genome.go.go.jp,
Carninci.p., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh
Carninci.p., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh
W., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subrraction of cap-trapper-selected cDNAs to
prepare full-length.cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Mataniki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura
Hayashizaki,Y., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
Hayashizaki,Y.
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Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Sclurognathi; Muridae; Murinae; Mus.

B. (bases 1 to 1007)

S. Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A.,

Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konda,

M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K., Ohno, H., Kouda,

M., Koya, S., Matsuyama, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki,

D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H.,

Tagami, M., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T.,

Muramatsu, M. and Hayashizaki, Y.

RIKEN Mouse ESTS (Arakawa, T., et al. 2001)

Unpublished (2001)

On Jun 24, 1999 this sequence version replaced gi:5192357.
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                                  183 AAATACCCTACTGAGACTGGTAGCAATGCCTACCTCAATGTGGATTATGTCATGAACTAT
                                                                                                                                    TrpLysAsnAsnGlyAlaProAlaGluLysLeuIleValGlyPheProGluTyrGlyHis
                                                                                                                                                                   ThrPhelleLeuArgAsnProSerAspAsnGlylleGlyAlaProThrSerGlyAspGly
                                                                                                                                                                                                                                                                                                           ProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrpAlaTyrTyrGluIleCysThrPhe
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cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information car
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM10840 row: h column: 09
High quallity sequence stop: 782.
Location/qualifiers
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6027-90636F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4921784 5',
mRNA sequence.
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NH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, Mammalian Gene Collection (MGC)
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
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/lab_host="DH10B (TI_phage-resistant)"
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Not!; Site_2: Sali; Cloned unidirectionally. Primer: OlfgodT. Average insert size 1.3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 190 c 205 g 211 t
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602786689F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4912438 5',
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)
National Institutes of Health, Mammalian Gene Collection (MGC)
Upubblished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LiNL at:
http://image.llnl.gov
Plate: LLAM10816 row: b column: 23
High quality sequence stop: 787.
GlyProAlaGlyAlaTyrThrArgGlnAlaGlyPheTrp-AlaTyrTyrGlu-IleCygT
                                                                 GGCCCTGCTGGGCCCTATACCAGACAGGCTGGGTTCTGGGGCCTACTATGAGAATTTGCA
                                                                                           hrPheLeuArgSer-GlyAlaThrGlu-ValTrpAspAlaSerGlnGluValProTyrAl
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/organism="Mus musculus"
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AlaPheGluGluAlaIleGluSerAsnArgProArgLeuMetVaIThrAlaAlaVal
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104 LysPheLeudrgGlnTyrGlyPheAspGlyLeudspLeudspTrpGluTyrProGlySer 123

US-10-004-219B-9 (1-452) x BG866853 (1-800)

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Best Local Similarity: Query Match: DB:

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(c) 1993 - 2003 Compugen Ltd.
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Human chitinase pr MO-218 clone of hu Human chitinase pr Human 50 kba chiti Human 60 kba chiti Human chitinase pr MO-138 clone of hu Human chitinase pr Human chitinase pr Human chitinase.

ABB76291 AAW08584 AAW40260 AAY42426 AAE00433 ABB76292 AAW31498

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23398 23398 233998 233994 23392 23992 23992

AAW40259 AAY42425 AAE00432

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This is the amino acid sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear homo polymer of beta-1,4-linked N-acetylglucosamine residues). The sequence also includes a chitin binding peptide region, which lacks any chitinase activity, but which can be used to target anti-fungal agents to chitin containing fungal cells.

Chitinase fragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for detection and quantification of chitinase. Polynucleotide fragments of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chitin can be degraded by the enzyme chitinase. Use of whole chitinase protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life- threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel chitin-binding fragments of human chitinase used to treat fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such affungi. Fungal infection treated include candidiasis, aspergillosis, coccidioidomycosis, blastomycosis, paracoccidioidomycosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mucormycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, and dermatophytoses.
                 chitin; fungal infection; immunocompromised; AIDS; chemotherapy;
                               organ transplant; parasite; chitin-binding; allele; vector; truncated protein; chitin binding region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.0%; Score 2398; DB 20; Best Local Similarity 100.0%; Pred. No. 7.8e-221; Matches 445; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                        391..445
/label= Chitin binding
/note= "Chitin binding region"
                                                                                                                                                                                   22..445
/label= Mature protein
/note= "Human Chitinase"
                                                                                                                                                1..21
/label= Signal_peptide
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                                                                                                                             Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAZ21847
                                                                                                                                                                                                                                                                                                                                                                                             12-MAR-1999;
                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                  12-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                            16-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gray PW,
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                                                                                                                                                Peptide
                                                                                                                                                                                     Protein
                                                                                                                                                                                                                                            Peptide
ò
                                                                                                                                                                          This sequence represents a novel human chitinase isolated from clone MO-218. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents, and thus of their side effects.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RQELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA 420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GLKKMNPKLKTLLA1GGWNFGTOKFTDMVATANNROTFVNSA1RFLRKYSFDGLDLDWEY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 466;
                                                                                         Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MO-218 clone of human Chitinase, amino acid sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 2398; DB 19;
100.0%; Pred. No. 7.8e-221;
iive 0; Mismatches 0;
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                                                                                                                                                Claim 1; Page 41-42; 63pp; English
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                                   WPI; 1998-052316/05.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       466 AA;
                                                      N-PSDB; AAV10435
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                                                                                                                                                                           PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
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                                                                                                 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK 300
                                                                                                          VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL 381
                                                                                                                                                                                                                                                                                                                            Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;
          PGSOGSPAVDKERFTTLVQDLANAFQCEAQTSGKERLLLSAAVPAGGTYVDAGYEVDKIA
                                                                 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                            RQELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA
GLKKMNPKLKTLLA1GGWNFGTQKFTDMVATANNRQTFVNSA1RFLRKYSFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Region with triacetylchitotriose hydrolysing activity"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Steiner BH;
                                                                                                                                                                                                                                                                                                                                                                                                       1...21
/label= Signal_peptide
22...466
/label= Human_mature_chitinase_protein
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/label= Chitin_binding_domain
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                                                                                                                                                                                                                                                                                                              Human chitinase protein from clone pMO-218,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shaw
                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                            Gray PW,
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                                                                                                                                                                                                                                                                                              (first entry)
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N-PSDB; AAD03759.
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                                                                                                                                                                                                                                                                                                                                                                clone pMO-218
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                                                                                                                                                                                     product, comprising a human childrage fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidisatis, aspergillosis, blastomycosis, coccidioidomycosis, paracoccidioidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastcmycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties.

The present sequence is human chitinase protein from clone pWO-218. Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.
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Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                 present invention relates to a chitinase immunoglobulin (Ig) fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVBKIA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 2398; DB 22;
100.0%; Pred. No. 7.8e-221;
ive 0; Mismatches 0;
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                                                                                                                Claim 1; Page 32-33; 39pp; English.
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  142 PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 201
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human chitinases of 50 kDa (AAW08584) and 39 kDa (AAW08585) are stable
                                                                                                                                                                                                                                                                                                       322 VPYIFRDNQWVGFDDVESFXTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
                                                                                                                                                                                                 RQELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA
                                                     ONLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                                           VPY1FRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
                                                                                                                                                                                                                                                                                                                                                                                    ROELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA
                                                                                                         QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKORIODOK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New human chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chitinase, chitotriosidase, chitin, infectious disease; gene therapy, vaccine, diagnosis, lysosomal lipidosis, Gaucher disease, leishmaniasis; sarcoidosis, multiple sclerosis; x-linked adrenoleukodystrophy; drug delivery, cosmetics; food.
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/label= Catalytic_domain
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/label=_Sig_peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW08584 standard; Protein; 466 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence is the protein sequence of human chitinase as predicted from isolated cDNA clone MO-218 (see ABL57380). It differs in only 1 amino acid residue from the chitinase sequence (see ABB76292) deduced from a second cDNA clone, having glycine at position 81 of the mature protein. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung and ovary tissues. Charles of some state of the appropriate and protective role against pathogenic organisms that contain chitin. The invention provides which are expected to be useful as products for treating fungal methods for the recombinant production of human chitinase products. Which are expected to be useful as products for treating fungal chitinase has a synergistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidaas, appergillosis, coordiolodomycosis, paracoccidiolodomycosis, appropriate antifungal and infection such as candidaas, appraisable and a fungal infection such as candidaas, appragnilosis, coordiolodomycosis, chromobles and a paracoccidiolodomycosis, appropriation and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a fungal and a
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGWTNHQLSTTEWNDETLYQEFN
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paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytoses and Pneumocystis infections (all claimed). In particular, the fungal infection involves Candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
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/label= Signal_peptide
22..466
/label= Mature_protein
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                                                                                                                                                               Location/Qualifiers
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Best Local Similarity
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                                                           Pneumocystis
                                                                                                              Homo sapiens
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                                                                                                                                                                    Key
Peptide
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This sequence represents a novel human chitinase isolated from clone Mo-13B. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinase; e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agence that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extractlular matrix. Chitinase also improves the activity of other antibus of their side effects.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GLKKMNPKLKTLLAIGGMNFSTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
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                                                                                                                                                                                              Nucleic acids encoding human chitinase – useful as antifungal agents, especially in combination with other antifungals
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                                                                                                                                                                                                                                                 Claim 7; Page 44-45; 63pp; English
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   97WO-US10460
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             383 QELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCAA 442
                                                                                                                                                                                                                                                                                                  62 LKKOMPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                82
                                                                                                                                                                                                                                                 23 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                        122 GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ
                                                                                                                                                                                                                                                                                                                                                                                            143 GSGGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                            NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    263 GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKGGGMLAYYEVCSWKGATKQRIQDQKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PYIFRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTLR
                                                                                                                                                                                                                               2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      323 PYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCAA
                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal rheumatoid arthritis; overexpression; extracellular matrix.
vector, are used to treat or prevent infection by chitin-contg. pathogens (e.g. fungi, protozoa, helminths) and more generally to degrade chitin. They are also useful in controlled-release drug delivery, in cometics, foods and dental products, for antibody prodn. and for diagnosis of diseases associated with elevated chitinase levels.
                                                                                                                                                                                              ö
                                                                                                                                                         Length 466;
                                                                                                                                                                                              Indels
                                                                                                                                                       99.8%; Score 2394; DB 18;
100.0%; Pred. No. 1.9e-220;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1..21
| Aabel= signal
| 22..466
| Aabel= chitinase
| note= "from clone MO-13B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human chitinase protein from clone MO-13B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GRLFQOSCPIGLVFSNSCKCCTWN 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GRLFQQSCPTGLVFSNSCKCCTWN 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW40260 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-JUN-1998 (first entry)
                                                                                                                                                                                            Matches 444; Conservative
                                                                                                                                                                             Similarity
                                                                                                                        466 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
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                                                                                                                          Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242
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                                                                                                                                                         Query Match
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                                                                                                                                                                             Local
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Gaps

9 81 180

201

141

240

261

300

321

420

441

81

180

201

240

300

321

1..21 /label= Signal_peptide 22..466 /label= Mature_protein

99WO-US05343 98US-0039198

location/Qualifiers

261

360 381 420

φ

(first entry)

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This is the amino acid sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear home polymer of beta-1,4-linked N-acetylglucosamine residues).

The sequence also includes a Chitin binding peptide region, which lacks any chitinase activity, but which can be used to target anti-fungal agents to chitin containing fungal cells.

Chitinase fragments can be used to screen for proteins or other chitinase that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for chitinase. Polymucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, conjugated to antifungal compounds, are used to treat animals, fungal infected with chitin-containing parasites such as fungal. Infection treated include candidiasis, aspergillosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chitin can be degraded by the enzyme chitinase. Use of whole chitinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein for treating infections, especially fungal infections, is problemaric. In view of the increasing incidents of life-threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mucormycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, and dermatophytoses.
                                                                                                                               chitin, fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; chitin binding region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         coccidioidomycosis, blastomycosis, paracoccidioidomycosis
                                                                                          MO-13B clone of human Chitinase, amino acid sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 1; Page 62-64; 83pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gray PW, Tjoelker LW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel chitin-binding f
infections in animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-551417/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (ICOS-) ICOS CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-MAR-1998;
                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                     WO9946390-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                               12-MAR-1999;
                                                      10-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                         16-SEP-1999
                  AAY42426;
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                                                                                                                                                                                                                                                                                                            Protein
                                                                                                                                                                                                                                                                    Peptide
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fragments of human chitinase used to treat fungal

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Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;
                                          82 GLKKMNPKLKTLLAIGGWNFSTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
22 AKLVCYPTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
                                                                                PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                                         142 PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                                                                                                                         LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK
                                                                                                                                                                                                        322 VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
                                                                                                                                                                                                                                                                                                 RQELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA
                                                                                                                                                                                                                                                                                                                          382 RÓELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA
                                                                                                                                     QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                              VPYI FRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
                                                                                                                                                   202 QNLDFVNLMAYDFHGSWEKVTGHNSPLXKRQEESGAAASLNVDAAVQQWLQKGTPASKLJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Steiner BH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Region with triacetylchitotriose
hydrolysing activity"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22..466
/label= Human_mature_chitinase_protein
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/label= Chitin_binding_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shaw KD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human chitinase protein from clone pMO-13B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ...21
|abel= Signal_peptide
                                                                                                                                                                                                                                                                                                                                                        445
                                                                                                                                                                                                                                                                                                                                                                                 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                        421 AGRLFQQSCPTGLVFSNSCKCCTWN
                                                                                                                                                                                                                                                                                                                                                                                 442 AGRLFQQSCPTGLVFSNSCKCCTWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gray PW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAE00433 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0409918.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dietsch GN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-266141/27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone pMO-13B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-JUN-2001
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                                                                                                                                                                                                                                                                                                    361
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                             61
                                                                                  121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein
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Gaps

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Indels

99.7%; Score 2392; DB 20; 99.8%; Pred. No. 2.9e-220; iive 0; Mismatches 1;

444; Conservative

Matches

Local Similarity

466 AA;

Length 466;

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The present sequence is the protein sequence of human chitinase as predicted from isolated cDNA clone MO-13B (see ABL57378). It differs in only 1 amino acid residue from the chitinase sequence (see ABB76291) deduced from a second cDNA clone, having serine at position 81 of the mature protein. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung and ovary tissues. Expression in lung and ovary tissues. Expression in lung and ovary tissues. Dathogenic organisms that contain chitin. The invention provides human chitinase polymucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products, which are expected to be useful as products for treating fungal infections or for the development of such products. Human chitinase has a synergistic effect on the actions of other chitinase an suffungal agent, especially activity of a non-chitinase antifungal agent, especially activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidiasis, approxilations (all claimed). In blastomycosis, paracoccidiodomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, cryptococcus spp., whose growth is not effectively
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
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                      candidiasis, aspergillosis, coccidioidomycosīs, blastomycosis,
paracoccidioidomycosis, histoplasmosis, cryptococcosis,
chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytosis,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Column 33-36; 26pp; English.
                                                                                                                                                                                                                   1..21
/label= Signal_peptide
22..466
/label= Mature_protein
                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                        97US-0877599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96US-0663618
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N-PSDB; ABL57381.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ICOS-) ICOS CORP
                                                                                               Pneumocystis
                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                      US6372212-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                      16-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-JUN-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gray PW;
                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                  Protein
  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
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                                                                                                                                                                               The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidisals, aspergillosis, blastomycosis, coccidioidomycosis, paracoccidioidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, psprotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing protein is also useful for preparing medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties.

The present sequence is human chitinase protein from clone pMO-13B. Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFAGFSCNOGRYPLIQTL 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ROBLSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCA 420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81
                                        Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGWTNHQLSTTEWNDETLYQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 2392; DB 22;
Pred. No. 2.9e-220;
0; Mismatches 1;
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                                                                                                                                          Claim 1; Page 36-38; 39pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB76292 standard; Protein; 466 AA
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Best Local Similarity 99.8%;
Matches 444; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   466 AA;
N-PSDB; AAD03760.
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322 VPYIFRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
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                                                                                                                                                                                                                                                                                                                                                                                             PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
                                                                                                                                                                                                                 Gaps
              protein in a host comprising contacting a bodily sample with an antibody. Chitotriosidase can degrade extracellular matrix substrates with a similar carbohydrate structure to chitin. It car be used to develop products which can be used in the diagnosis and treatment of tissue remodelling disorders such as rheumatoid arthritis or atherosclerosis.
method of detecting altered expression of a chitotriosidase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chitotriosidase, tissue remodelling disorder, diagnosis, therapy; rheumatoid arthritis, atherosclerosis; human.
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                                                                                                                                                                               466;
                                                                                                                                                                            Length
                                                                                                                                                                                                               Indels
                                                                                                                                                                             Score 2391; DB 18;
Pred. No. 3.6e-220;
                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGRLFQQSCPTGLVFSNSCKCCTWN 445
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(SMIK) SMITHKLINE BEECHAM CORP.
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                                                                                                                                                                               99.7%;
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                                                                                                                                                                                                                  444; Conservative
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                                                                                                                                                                                                Similarity
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                                                                                                                                              Sequence
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                                                                                                                                                                               Query Match
Best Local 9
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                                                                                                                                                                                                                  Matches
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                      PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                              QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                               LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK
                                                                                                                                                                                                                  VPY1FRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
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                                                                        QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                              LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                diagnosis; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Thotakura NR
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                                                                                                                                                                                                                                                                                                                                                             AGRLFQQSCPTGLVFSNSCKCCTWN 445
                                                                                                                                                                                                                                                                                                                                                                                   AGRIFQQSCPTGLVFSNSCKCCTWN 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 22-24; 34pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gentz R, Kirkpatrick RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human chitotriosidase variant
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This sequence encodes a fragment of a novel human chitinase protein which lacks the C-terminal 72 residues of the mature protein. These residues are not critical to chitinase enzymatic activity. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') redentis. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                rheumatoid arthritis; overexpression; extracellular matrix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 23; Page 48-49; 63pp; English.
                          Human chitinase protein fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and thus of their side effects.
                                                                                                                                                                                                                                                                                              96US-0663618
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Matches 373; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAV10435
                                                                                                                                                                                                                                                                                                                                     (ICOS-) ICOS
                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                          16-JUN-1997;
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                                                                                                                                                                                                                      18-DEC-1997.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLANDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLKKMNPKLKTLLAIGGWNFSTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                equence was deduced from the coding sequence of a full-length cDNA clone (see AAT89180) deposited as ATCC 69953. A preferred variant chitorisoisase sequence is also provided (see AAAT89180). The following are claimed: (1) a nucleic acid sequence encoding chitotriosidase: (2) a method of diagnosing a tissue remodelling disorder related to expression of a mutated chitotriosidase protein in a host comprising carrying our nucleic acid amplification; and protein in a host comprising charted expression of a chitotriosidase protein antibody. Chitotriosidase can degrade extracellular matrix substrates with a similar carbohydrate structure to chitin. It can be used to develop products which can be used in the diagnosis and treatment of tissue remodelling disorders such as rheumatoid
                                                                                                New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g. rheumatoid arthritis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98.9%; Score 2372; DB 18; Length 464; 99.3%; Pred. No. 2.4e-218; ive 0; Mismatches 1; Indels 2;
                                                                                                                                                                                                                    The amino acid
      Thotakura NR;
                                                                                                                                                                                                                  This protein comprises human chitotriosidase.
      Ni J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGRLFQQSCPTGLVFSNSCKCCTWN 445
                                                                                                                                                                             Disclosure; Page 19-21; 34pp; English.
Chopra A, Gentz R, Kirkpatrick RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           440 AGRLFQOSCPTGLVFSNSCKCCTWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW40261 standard; Protein; 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            arthritis or atherosclerosis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 99.3
Matches 442; Conservative
                                          1997-503041/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                464 AA;
                                                        N-PSDB; AAT89180
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AAW40261
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Chitinase, which can be expressed in bacterial cells. The fragment was prepared by amplifying the MO-218 plasmid with primers 218-1 (AAZ21855)

Chitinase fragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for invention are useful as a source of probes and primers, and to chection and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, and to conjugated to antifungal compounds, are used to treat animals, conjugated to antifungal compounds, are used to treat animals, subject of probes and chitinase fragments and conjugated to antifungal compounds, are used to treat animals, conjugated to antifungal compounds, are used to treat animals, conjugated to antifungal compounds, are used to treat animals, conjugated to antifungal compounds, are used to treat animals, appropriately humans, infected with chitin-confidiasis, aspergillosis, coccidiodomycosis, blastomycosis, paracoccidiodomycosis, miscoplasmosis, cryptococcosis, chromoblastomycosis, mucormycosis, and dermatophytoses.

Chitin can be degraded by the enzyme chitinase. Use of whole chitinase problematic. In view of the increasing incidents of life- threatening fungal infection in e.g. immunocompromised individuals, there exists a coed for identifying new compounds for treating fungal infection. The
301 VPYIFRDNQWYGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNGGRYPLIQTL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel chitin-binding fragments of human chitinase used to treat fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                   chitin, fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; bacterial expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 82.7%; Score 1982; DB 20; Length 373; Best Local Similarity 100.0%; Pred. No. 4.3e-181; Matches 373; Conservative · 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                Clone of the C-terminal fragment of human chitinase.
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Example 5; Page 66-67; 83pp; English.
                                                                                                                                                                                        AAY42427 standard; Protein; 373 AA.
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                                                                               RQELSLPYLPSGT 373
                                                                                                                                                                                                                                                              10-DEC-1999 (first entry)
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                                                                                                                                                                                                                                                                                                                                                       VPY1FRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIOTL
                                                                                                                                                                                                                                                                                                                                                                         AKLVCYFINWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMINHQLSTTEWNDETLYQEFN
                                                                                                                                                                                                                                 181 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                                                 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK
                                                                   GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
                                                                                                      GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
                                                                                                                                       PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis -
                                                                                                                                                                                                             QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chitinase; enzyme; human; fungicide; antifungal; infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; proctrichosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence is the protein sequence of a human mature chitinase truncated polypeptide, in which the 72 C-terminal amino acids of the native mature protein (see ABB76291) are deleted. The coding region for the polypeptide was obtained by PCR from chitinase MO-218 cDNA (see ABE57380), and the polypeptide was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example 5; Column 49-42; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human chitinase truncated polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB76293 standard; Protein; 373 AA.
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97WO-US10460 96US-0663618

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This sequence encodes a fragment of a novel human chitinase protein analogue in which a proline at position 370 of the wild type protein (see AAM40261) is substituted with a serine and the C-terminal 72 residues of the mature protein are deleted. These residues are not critical to chitinase enzymatic activity. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in Chypridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and rallow a reduction in the dose of such agents, and thus of their side
                                                                                                                                                                                                                         Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                                                                        Claim 29; Page 49-50; 63pp; English
                                                                                                                                                                                  WPI; 1998-052316/05.
                                                                                                     (ICOS-) ICOS
                     16-JUN-1997;
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                                cysteine residues of the native protein yet retains similar specific enzymatic activity. The invention provides human chitinase polynucleotides and polypoptides, and methods for the recombinant production of human chitinase products, which are expected to be useful for treating fungal infections. The chitinase can be used to improve the activity of a non-chitinase antifungal agent in the treatment of candidiasis, aspergillosis, coccidioidomycosis, blastomycosis, paracoccidioidomycosis, blastomycosis, paracoccidioidomycosis, paracoccidioidomycosis, paracoccidioidomycosis, paracoccidioidomycosis, approtrichosis, mucormycosis, dermatophytoses and Pneumocystis infections.
                   This 39 kDa polypeptide lacks
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                                                                                                                                                                                                                                                                                                       82.7%; Score 1982; DB 23; Length 373; 100.0%; Pred. No. 4.3e-181;
                                                                                                                                                                                                                                                                                                                    100.0%; Pred. ...
produced in transfected COS cells.
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                                        Query Match 82.3%; Score 1974; DB 19; Length 373; Best Local Similarity 99.7%; Pred. No. 2.5e-180; Matches 372; Conservative 0; Mismatches 1; Indels 0;
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373 AA;
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Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix.

Human chitinase protein analogue.

15-JUN-1998 (first entry)

AAW40262 standard; Protein; 373 AA

AAW40262

/label= P370S /note= "Wild type Pro is replaced by Ser"

Location/Qualifiers

Key Misc-difference

MO9747752-A1 18-DEC-1997

Homo sapiens

Synthetic

Search completed: June 29, 2003, 20:59:40 Job time: 30.6228 secs

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us-10-004-219b-10.rai

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22 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
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Best Local Similarity 100.0%; Pi
Matches 445; Conservative 0;
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         TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE
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1136.565 Million cell updates/sec
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Sequence 17,
Sequence 2, A
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Sequence 14
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2398
1 AKLVCYFTNWAQYRQGEARF.....QQSCPTGLVFSNSCKCCTWN
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/cgn2_6/ptodata/1/jaa/5B_COMB.pep:*
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/cgn2_6/ptodata/1/jaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/jaa/PCTUS_COMB.pep:*
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GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                                                                                                                      262574 segs, 29422922 residues
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Maximum Match 100%
Listing first 45 summaries
                                       - protein search, using sw model
                                                          June 29, 2003, 20:57:59
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Maximum DB seq length: 200000000
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Match Length
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Perfect score:
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TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSE: Hoffmann & Baron
SIREET: New York
COUNTRY: United States of America
ZIY: Jericho
STATE: New York
COUNTRY: Dinted States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
COMPUTER: PatentIn Release #1.0, Version #1.30
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US-09-292-225-38
US-09-292-225-18
US-09-292-225-18
US-09-945-225-18
US-07-939-501A-1
US-07-939-501A-1
US-07-939-501A-12
US-07-939-501A-12
US-08-44-129
US-08-04-225-18
US-08-04-128-12
US-08-04-128-12
US-08-04-128-12
US-08-04-128-12
US-08-04-128-12
US-08-04-128-12
US-08-05-128-12
US-08-591-629-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/486,839
FILING DATE: 07 - June - 1995
ATTORNEY/AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTATION NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 294-26
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                   Sequence 4, Application US/08486839
Patent No. 5928928
GENERAL INFORMATION:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (516) 822-3550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (516) 822-3582
INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
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amino acid
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Gaps

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Length 466; Indels

Score 2398; DB 2; Pred, No. 5.1e-218; ; Mismatches 0;

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TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
Query Match 100.
Best Local Similarity 100.
Matches 445; Conservative
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US-09-039-198A-2
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Patent No. 6057142
GENERAL INPORMATION:
APPLICANT:
TITLE OF INVENTION: A Human Chitinase, Its Recombinant
TITLE OF INVENTION: Production, Its Use For Decomposing Chitin, Its Use in
TITLE OF INVENTION: Therapy or Prophylaxis Against Infection Diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                   61 GLKKWNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
                                                                                           PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                                                                                   181 ONLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI 240
                                                                                                                                                                                                                                             LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK 300
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                                        142 PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
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CITY: Syosset
STATE: New York
CUNTRY: United States of America
ZIP: 11791
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421 AGRLFQQSCPTGLVFSNSCKCCTWN 445
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APPLICATION NUMBER: US/09/151,011
FILING DATE: 10 - September - 1998
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: Hoffmann & Baron, LLP
6900 Jericho Turnpike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Morriss, Robert C.
REGISTRATION NUMBER: 42,910
REFERENCE/DOCKET NUMBER: 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
TELEPHONE: (516) 822-3550
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amino acid
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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TOPOLOGY: unknown
MOLECULE TYPE: protein
HYPOTHETICAL: NO
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                                                                                                                         Gaps
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            Length 466;
                                                                                                                   Indels
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APPLICANT: Gray, Patrick W.
APPLICANT: Tjoalker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Bor STREET: 213 South Wacker Drive/6300 Sears Tower CITY: Chicago STATE: Illinois COUNTRY: United States of America ZIP: 60606-6402 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: IBM PC
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100.0%; Score 2398; DB 3;
100.0%; Pred. No. 5.1e-218;
tive 0; Mismatches 0;
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ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 2786
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 474-6300
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REFERENCE/DOCKET NUMBER: 294-26
                 TELECOMMUNICATION INFORMATION:
TELEPRONE: (516) 822-3550
TELEPRX: (516) 822-3550
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acids
                                                                                                                                                    unknown
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                                                                                                                                                                      unknown
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STATE: Illinois
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APPLICANT:
TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann & Baron
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CITY: Jericho
STATE: New York
COUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE:
                                                                          100.0%; Score 2398; DB 4;
100.0%; Pred. No. 5.1e-218;
ative 0; Mismatches 0;
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FILING DATE: 07-June-1995
ATTONNEY/AGENT INFORMATION:
NAME: BALON, ROMAIL J.
REGISTRATION NUMBER: 29,281
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APPLICATION NUMBER: US/09/343,623
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Patent No. 6303118
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350 Jericho Turnpike
                                                                        Query Match
Best Local Similarity 100.
Matches 445; Conservative
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                   MOLECULE TYPE: protein
linear
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 TOPOLOGY:
                                     US-09-039-198A-2
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                                                                 Gaps
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Query Match 100.0%; Score 2398; DB 4; Length 466; Best Local Similarity 100.0%; Pred. No. 5.1e-218; Matches 445; Conservative 0; Mismatches 0; Indels 0
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STREET: 6300 Sears Tower, 233 South Wacker Drive
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"Sequence 2, Application US/08877599

"Sequence 2, Application US/08877599

"Patent No. 6372212

"Patent No. 6372212

"APPLICANT: Gray, Patrick W.

"TITLE OF INVENTION: Chitinase Materials and Methods

"UMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 60606-640c
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
COFTWARE: PatentIn Release #1.0, Version #1.25
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FILING DATE
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APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TILL OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REPERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
         CLASSIPTCATION 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UNA-1996
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELEPHONE: 312/474-6300
TELEFAX: 312/474-6300
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Patent No. 6399571
                                                                                                                                                                                                INFORMATION FOR SEO ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 466 amino acids TYPE: amino acid
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                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
MOLECULE TYPE: protein
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                                                                                                            Length 466;
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Patent No. 6200551
GENERAL INFORMATION:
APPLICANT: Tjoelker, Larry W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marchall, O'Toole, Gerstein, Murray & Borr
STREET: 233 South Wacker Drive/6300 Sears Tower
                                                                                                       ; Score 2398; DB 4;
; Pred. No. 5.1e-218;
0; Mismatches 0;
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STATE: 1111nois
CONTYY: United States of America
ZIP: 60606-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION DATA:
APPLICATION NUMBER: U$/09/039,198A
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ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 2786
TELECOMMUNICATION INFORMATION:
                                                                                                         100.0%;
                                                                                                    Query Match
Best Local Similarity 100.0
Matches 445; Conservative
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-267-574-2
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(312) 474-6300

TELEPHONE:

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ONLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI 240
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                       Score 2392; DB 4;
Pred. No. 1.9e-217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
FILING DATE: 14-JUN-1996

ATTORNEY/AGENT INFORMATION:
NAME: RAI-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELECOMMUNICATION INFORMATION:
TELEFAX: 312/474-6300
TELEFAX: 312/474-0448
TELEFAX: 312/474-0448
TELEFAX: 312/474-0468
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
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; Sequence 4, Application US/09267574
; Patent No. 6399571
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
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LENGTH: 466
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STREET: 6300 Sears Tower, 233 South Wacker Drive
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                     99.7%; Score 2392; DB 4;
99.8%; Pred. No. 1.9e-217;
ative 0; Mismatches 1;
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4, Application US/08877599
Patent No. 6372212
                        TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acid
TOPOLOGY: linear
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Best Local Similarity 99.8
Matches 444; Conservative
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                                                                                                                                          22 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
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                                                                                                                   1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
                                                                            Gaps
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                                       Length 466;
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CARRESPONDENCE ADDRESS:
ADDRESSE: Marshall, O'Toole, Gerstein, Murray & Borun STREET: 233 South Wacker Drive/6300 Sears Tower CITY: Chicago
STATE: Illinois
COUNTRY: United States of America
ZIP: 6060-6402
                                                                            Indels
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APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,198A
                                     Score 2392; DB 4;
Pred. No. 1.9e-217;
                                                                            0; Mismatches
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Patent No. 6200951
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NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/OCKET NUMBER: 2786
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 474-6300
TELEFAX: (312) 474-6448
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                     99.74;
                                                                            Matches 444; Conservative
                                     Query Match
Best Local Similarity
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US-09-267-574-4
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61 GLKKANPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
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                                                                                                                                                                                                                                                                                                    1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
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                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                         Length 373;
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STREET: 6300 Sears Tower, 233 South Wacker Drive
                                                                                                                                                                                                                                              Indels
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APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                      Query Match
82.7%; Score 1982; DB 4; L
Best Local Similarity 100.0%; Pred. No. 7.1e-179;
Matches 373; Conservative 0; Mismatches 0;
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STATE: 1111nois
COUNTR: United States of America
ZIP: 6060-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Ve
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APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
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APPLICATION NUMBER: US/08/877,599
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 14, Application US/08877599
Patent No. 6372212
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REGISTRATION NUMBER: 33,547
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
LENGTH: 373 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 ROELSLPYLPSGT 373
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PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                      PGSQGSPAVDKERPTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                                                                               QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI 240
                                                                                                                                                                                         VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL 360
61 GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
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; Sequence 15, Application US/09039198A
; Patent No. 6200951
; GENERAL INFORMATION:
; APPLICANT: Gray, Patrick W.
APPLICANT: Trioelber, Larry W.
TITLE OF INVENTION:
; TITLE OF EXQUENCES: 34
; COMBRESPONDENCE ADDRESS:
; ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Born
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Marshall, O'Toole, Gerstein, Murray 233 South Wacker Drive/6300 Sears Tower
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Pred. No. 4e-178;
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REGIGTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/34391
TELECOMUNICATION INFORMATION:
TELEPANE: (312) 474-6300
TELEPANE: (312) 474-648
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 373 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
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amino acid
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Matches 372;
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                                                                                                                                                                                                                                                                                                                                   1 AKLVCYFTNWAQYRQGEARFLPRDLDPSLCTHLIYAFAGWTNHQLSTTEWNDETLYQEFN 60
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                                                                                                                                                                                                                           Length 373;
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                                                                                                                                                                                                                                                                 Indels
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APPLICANT: Tjoelker, Larry W.
TTLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FITE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 14
LENGTH: 373
                                                                                                                                                                                                                      Ouery Match 82.7%; Score 1982; DB 4; I
Best Local Similarity 100.0%; Pred. No. 7.1e-179;
Matches 373; Conservative 0; Mismatches 0;
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100.0%; Pred. No. 7.1
ative 0; Mismatches
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                 TELEX: 25-3856
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 373 amino acida
TYPE: amino acid
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312/474-0448
                                                                                                                    STRANDEDNESS: single
                                                                                                                                        TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-877-599-14
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US-09-267-574-14
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Best Local Simi
Matches 373;
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US-09-267-574-14
TELEFAX:
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APPLICANT: Tjoelker, Larry W.
TTLEOP INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
TTLEOP TO INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT APPLICATION NUMBER: 09/039,198
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 15, Application US/09267574 Patent No. 6399571 GENERAL INFORMATION:
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ORGANISM: Homo sapiens
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US-09-267-574-15
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    GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
                            GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
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APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 6300 Sears Tower, 233 South Wacker Drive
CITY: Chicago
STATE: Illinois
COMPITE: United States of America
ZIP: 6606-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: FIDOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
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99.7%; Pred. No. 4e-178;
tive 0; Mismatches 1; Indels
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CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-JUN-1996
ATTONREY/ABRYI INFORMATION:
NAME: Rin-Laures, Li-Heien
REGISTRATION NUMBER: 33,547
REPERRUCA DOCKET NUMBER: 27866/33994
TELECOMMUNICATION INFORMATION:
TELEDRAN: 312/474-0448
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US-08-877-599-15
Sequence 15, Application US/08877599
; Patent No. 6372212
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INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
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Matches 372, Conservative
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Search completed: June 29, 2003, 21:03:29 Job time : 12.52 secs

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2850.818 Million cell updates/sec
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Sequence 14,
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Sequence 18,
Sequence 2, 7
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Sequence 38,
Sequence 21,
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                                                                                                   ; Search time 17.1154 Seconds
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1 AKLVCYFTNWAQYRQGEARF.......QQSCPTGLVFSNSCKCCTWN
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| Cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
| Cgn2_6/ptodata/1/pubpaa/NCT_NEW_PUB.pep:*
| Cgn2_6/ptodata/1/pubpaa/NUSO6_NEW_PUB.pep:*
| Cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*
| Cgn2_6/ptodata/1/pubpaa/NUSO7_PUBGOMB.pep:*
| Cgn2_6/ptodata/1/pubpaa/NUSO7_PUBGOMB.pep:*
| Cgn2_6/ptodata/1/pubpaa/NUSO8_NEW_PUB.pep:*
| Cgn2_6/ptodata/1/pubpaa/NUSO8_NEW_PUB.pep:*
| Cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
GenCore version 5.1.6
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US-10-21B-743-41
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US-10-21B-743-21
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US-10-21B-743-21
US-10-21B-743-11
US-10-21B-743-11
US-10-21B-743-11
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US-10-218-743-44
US-09-738-363-4
US-09-866-050A-302
US-09-757-049A-1
                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                          424699 segs, 109646833 residues
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Applications AA:*
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Maximum Match 100%
Listing first 45 summaries

    protein search, using sw model

                                                                                                 June 29, 2003, 21:01:56
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Perfect score:
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4265, Ap
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Sequence 10079, A
Sequence 14, Appl
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APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: Which mucus is involved or infection diseases in
TITLE OF INVENTION: Which mucus is involved or infection diseases
FILE REFERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT PILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PATENTIN Ver. 2.1
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Sequence 15, 3
Sequence 74,
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            Sequence 12,
Sequence 11,
Sequence 11,
Sequence 24,
Sequence 14,
Sequence 14,
Sequence 14,
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                                                                               10 US-00-748-033-1

9 US-00-748-033-1

9 US-00-31-262-278

9 US-09-974-973-19

9 US-09-974-973-2

9 US-09-974-973-2

9 US-09-974-973-4

9 US-09-974-973-4

9 US-09-919-033-15

9 US-09-919-039-15

9 US-09-919-039-15

9 US-09-919-039-15

0 US-09-918-027-801-74

0 US-09-815-242-10079

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100.0%; Pred. No. 5.2e-202;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: SITE
LOCATION: (1)..(445)
OTHER INFORMATION: /note="Human chitotriosidase"
US-10-260-877-80
US-09-977-418-12
US-09-977-438-12
US-09-840-787-11
0 US-09-88-610-24
US-10-023-282-461
US-09-957-187-14
US-09-957-187-14
                                                                                                                                                                                                                                                                               US-09-727-855B-5
US-10-112-488-39
US-09-738-626-5245
                                                                                                                                                                                                                                                                                                                                            ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 10, Application US/10004219B Publication Wo. US20030087414A1 GENERAL INFORMATION:
APPLICANT: Macrozyme
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                                                                                                                                                                                                                    408
408
1293
2783
2971
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11140
11157
11157
11190
2322
408
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ORGANISM: Homo sapiens
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 SEQ ID NO 10
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180

PGSQGSBAVDKERPTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA

PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA

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APPLICANT: Macrozyme
APPLICANT: Macrozyme
APPLICANT: Macrozyme
APPLICANT: Aerts, Johannes M.F.G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: witch mucus is involved or infection diseases in
TITLE OF INVENTION: witch mucus is involved or infection diseases
FILE REFERENCE: 2183-51360S
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 262
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302 EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             263 GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :||| :: | |||:||::|| | :|| | 323 EVPYAYQENVWYGYDNIKSFDIKAQMLKANKFGGAMVWAIDLDDFTGTFCNQGKFPLIST
                                           -- EHGPSPGODTFCOGKAD
                                                                                    --GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSGFCAVRAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.2%; Score 1323; DB 9; Length 4 52.2%; Pred. No. 1.2e-107; ive 70; Mismatches 126; Indels
                                                                                                                                                          405 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW
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                                             360 LRQELSLPYLPSGTPELEVPKPGQPSEP
                                                                                                                                                                                                                                                                                Sequence 1, Application US/10004219B
Publication No. US20030087414A1
GENERAL INFORMATION:
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Matches 240; Conservative
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                                                                                                                      241 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQK 300
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APPLICANT: Macrozyme
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: which mucus is involved or infection diseases in
FILE REPERENCE: 2183-51308
CURRENT APPLICATION: WMBER: US/10/004,219B
CURRENT APPLICATION NUMBER: US/10/004,219B
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 14
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                           181 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                        LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQR1QDQK
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                                                                                                                                                                                                                                                                                                                                                       AGRLFQQSCPTGLVFSNSCKCCTWN 445
                                                                                                                                                                                                                                                                                                                                                                                             AGRLFOOSCPTGLVFSNSCKCCTWN. 445
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; OTHER INFORMATION: /note="Human AMCase"
US-10-004-219B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 14, Application US/10004219B Publication No. US20030087414A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Homo sapiens
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                                                          APPLICATT: Macrozyme
APPLICATT: Macrozyme
APPLICANT: Macrozyme
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: witch mucus is involved or infection diseases in
TITLE OF INVENTION: witch mucus is involved or infection diseases
FILE REPERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT PRILING DATE: 2001-11-02
SOFTWARE: PATENTIN FORCE: 214
SOFTWARE: PATENTIN Ver. 2.1
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; OTHER INFORMATION: /note="Mouse AMCase"
US-10-004-219B-9
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Sequence 9, Application US/10004219B Publication No. US20030087414A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Mus musculus
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TITLE OF INVENTION: which mucus is involved or infection diseases FILE REFERENCE: 2183-5136US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21;
                                                                                                                                                                                                                                                                                                                                                                                                                   Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
54.3%; Score 1301.5; DB 9; Length
Best Local Similarity 51.5%; Pred. No. 9.4e-106;
Matches 235; Conservative 71; Mismatches 129; Indels
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                                                 CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SEQ ID NO 4
LENGTH: 473
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APPLICANT: MANJULA GANNAVARAPU
APPLICANT: Sebastian HOERSCH
APPLICANT: Shubhangi KAMATKAR
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Gordon B. MILLS
Robert C. BAST, Jr.
                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Artificial Sequence
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Xumei ZHAO
Karen GLATT
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Rachel B. MEYERS
Michael MORRISEY
Peter OLANDT
Ami SEN
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SOFTWARE: Patentin Ver. 2.1
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                                                           LENGTH: 383
                                  SEQ ID NO 17
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         Proteins For The Identification,
nd Therapy of Ovarian Cancer
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197 HLDFISIMTYDFHGAWRGTTGHHSPLFRGQEDASPDRFSNTDYAVGYMLRLGAPASKLVM 256
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Sequence 17, Application US/09459749D

General INFORMATION:
General INFORMATION:
APPLICANT: Millis, Albert J. T.

TITLE OF INVENTION: Compositions and Methods For Altering Cell Migration
FILE REPERENCE: 0794-016A

CURRENT APPLICATION NUMBER: US/09/459,749D

CURRENT FILING DATE: 1999-12-10

PRIOR PILING DATE: 1998-12-11

NUMBER OF SEQ ID NOS: 17
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TITLE OF INVENTION: Nucleic Acid Molecules and Prote:
TITLE OF INVENTION: Assessment, Prevention, and Therefore REERRENCE: MRI-030
CURRENT PAPLICATION NUMBER: US/10/097,340
CURRENT FILING DATE: 2002-03-14
PRIOR PPLICATION NUMBER: 60/276,025
PRIOR PLING DATE: 2001-03-14
PRIOR PPLICATION NUMBER: 60/325,149
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-26
PRIOR FILING DATE: 2001/09/26
PRIOR FILING DATE: 2001/09/26
PRIOR PLING DATE: 2001-09-26
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PRIOR PLING DATE: 2001-09-26
PRIOR PLING DATE: 2001-09-26
PRIOR PLING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-29
NUMBER OF SEQ ID NOS: 363
LEAGTH: 383
LEAGTH: 383
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LEAGTH: 383
LEAGTH: 383
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GARBANI MACANII NI ALABELIONI APPLICANT: MCCALLI NI APPLICANT: HURCEY, Shirley Wu APPLICANT: HURCEY, Shirley Wu APPLICANT: Weber. Brick R. TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS TITLE OF INVENTION: AND USES THEREOF FILE REFERENCE: AL-2-C3 THEREOF FILE REFERENCE: AL-2-C3 CURRENT ADPLICATION NUMBER: US/09/292,225 FRIOR FILING DATE: 1999-04-15 FRIOR FILING DATE: 1998-09-05 FRIOR FILING DATE: 1998-09-05 FRIOR FILING DATE: 1998-09-05 FRIOR FILING DATE: 1998-09-05 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FILING DATE: 1998-04-17 FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIOR FRIO
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; Pred. No. 2.6e-81
67; Mismatches 9
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; ORGANISM: Dermatophagoides farinae
US-10-218-743-41
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Publication No. US20030096779A1
GENERAL INFORMATION:
                                                                                                                                                                                                42.6%;
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Best Local Similarity 52.2
Matches 191; Conservative
; TYPE: PRT
; ORGANISM: Sus scrofa
US-09-459-749D-17
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APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Brick
ITILE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
ITILE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
FILE REFERENCE: AL-2-C3
FILE REPERENCE: AL-2-C3
FILE REPERENCE: AL-2-C3
FILE REPERENCE: AL-2-C3
FILE REPERENCE: AL-2-C3
FRIOR APPLICATION NUMBER: US/10/218,743
CURRENT PILING DATE: 1999-04-15
FRIOR FILING DATE: 1999-04-15
FRIOR FILING DATE: 1998-09-02
FRIOR FILING DATE: 1998-09-03
FRIOR FILING DATE: 1998-04-17
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     60; Gaps 14
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                                                                                                                                                                                       FDGLDLDWEYPGSQ-GSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTY 169
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                                                                                   Query Match
31.8%; Score 762; DB 9; Length 509;
Best Local Similarity 33.3%; Pred. No. 2.3e-58;
Matches 162; Conservative 93; Mismatches 172; Indels
  93; Mismatches 172; Indels
                                                       KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLST-
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. Sequence 35. Application US/10218743
. Publication No. US20030096779A1
. GENERAL INFORMATION:
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; ORGANISM: Dermatophagoides farinae
US-10-218-743-35
Matches 162; Conservative
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Gaps

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| JARDELICANT: MCCALLILOW:
| JARDELICANT: MCCALLILOW:
| APPLICANT: HUNTER: Shirley Wu
| APPLICANT: HUNTER: Shirley Wu
| APPLICANT: WEELS: Bricley Wu
| APPLICANT: WEELS: Bricley Wu
| TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
| TITLE OF INVENTION: AND USES THEREOF
| TITLE OF INVENTION: AND USES THEREOF
| TITLE OF INVENTION: AND USES THEREOF
| TITLE OF INVENTION: AND USES THEREOF
| TITLE OF INVENTION: WOMBER: US/10/218,743
| CURRENT APPLICATION NUMBER: US/09/292,225
| PRIOR FILING DATE: 1999-04-13
| PRIOR PLICATION NUMBER: 60/088,909
| PRIOR PLICATION NUMBER: 60/088,595
| PRIOR PLICATION NUMBER: 60/088,565
| PRIOR PLICATION NUMBER: 09/062,013
| PRIOR PLICATION NUMBER: 09/062,013
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                                                                        34 RIVCYVGTWSVYHKVDP-YTIEDIDPFKCTHLMYGFAKIDEYKYTIQVFDPFQDDNHNSW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        170 VDAGYEVDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAAS-LNVDAAVQQ
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31.8%; Score 762; DB 9; Length 50;
Best Local Similarity 33.3%; Pred. No. 2.3e-58;
Matches 162; Conservative 93; Mismatches 172; Indels
KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLST-
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                                                                                                                                              FDGLDLDWEYPGSQ-GSPAVDKERFTTLVQDLANAFQQEAQTSGKERLJLSAAVPAGQTY 169
                                                                                                                                                                                                                    VDAGYEVDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAAS-LNVDAAVQQ 228
                                                                                                                                                                                                                                        WLQKGTPASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW 288
                                                                                                                                                                                                                                                                                                                                                                    289 KGATKQRIQ-DQ--KVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFA 345
                                                                                                                                                                                                                                                                                                                                                                                     -----LPYLPSGTPELEVPKPGQPSEP 387
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                                                                                         S - SKHGYERFINILRIKONPELTTMISLGGWYEGSEKYSDWAANPTYRQQFVQSVLDFLQEYK 151
                                   92
---TEM 50
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APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES,
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
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 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLST-
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PRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1999-04-15
PRIOR PELICATION NUMBER: 60/098,909
PRIOR FILING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/085,295
PRIOR FILING DATE: 1998-05-13
PRIOR FILING DATE: 1998-04-17
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Publication No. US20030096779A1
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Best Local Similarity 34.2%;
Matches 152; Conservative 8
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APPLICANT: MCCALI, Catherine A.
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Eric R
TITLE OF INVENTION: NOVEL DERMATOPHACOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
CURRENT APPLICANION NUMBER: US/09/292,225
PRIOR FILING DATE: 1999-04-13
PRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1998-09-02
PRIOR FILING DATE: 1998-05-13
PRIOR FILING DATE: 1998-05-13
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                                                                                                       289 KGATKORIQ-DQ--KVPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFA 345
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                                                                                                                                                                               FDGLDLDWEYPGSQ-GSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTY 169
                                                                                                                                                                                                                                                                                    170 VDAGYEVDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAAS-LNVDAAVQQ 228
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NDETLYQEFNGLKKMNPKLKTLLA1GGWNFGTQKFTDMVATANNRQTFVNSA1RFLRKYS
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Matches 152; Conservative
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289 KGATKQRIQ-DQ--KVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFA 345
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                             170 VDAGYEVDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAAS-LNVDAAVQQ 228
                                                           WLQKGTPASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW 288
                                                                                                                                                                               265 YLNNGATRDKLVMGVPFYGRAWSIEDRSKLKLGDPAKGMSPPGFISGEEGVLSYIELCQL 324
                                                                                                                                                                                                                                                                                                                                        -----FSCNQG-----RYPLIQTLRQELSLPYLPSGT 373
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/09923844B; Sequence 2, Application US/09923844B; Patent No. US2020166143A1; GENERAL INFORMATION:
APPLICANT: Pioneer Hi-Bred International, Inc.
APPLICANT: Bao, Zhongmeng
APPLICANT: Lu, Guihua
TITLE OF INVENTION: Sclerotinia-inducible Genes and
TITLE OF INVENTION: Promoters and Their Uses
FILE REFERENCE: 35718/234631
CURRENT APPLICATION NUMBER: US/09/923,844B
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PRIOR FILING DATE: 2000-08-11
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                              374 PELEVP-KPGQPSEPEHGPSPGQDT 397
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Best Local Similarity 36.1%
Matches 126; Conservative
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APPLICANT: McCall, Catherine A.
APPLICANT: Water, Shirtey Wu
APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
CURRENT FILING DATE: 1209-04-15
PRIOR FILING DATE: 1998-04-15
PRIOR FILING DATE: 1998-09-02
PRIOR FILING DATE: 1998-09-02
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
SOFTWARE: PatentIn Ver. 2.0
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                                                                           289 KGATKQRIQ-DQ--KVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDDFA 345
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93 -EKRGYERFINILRIKNPELTTMISLGGWYEGSEKYSDMAANPTYRQQFIQSVLDFLQEYK 151
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30.8%; Score 738; DB 9; L.
Best Local Similarity 34.2%; Pred. No. 3.4e-56;
Matches 152; Conservative 85; Mismatches 150;
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Sequence 3, Application US/09748033

Patent No. US20020069431A1

GENERAL INFORMATION:

APPLICANT: Broadway, Roxanne M.

APPLICANT: GONGAZA, Carmenza E.

ITTLE OF INVENTION: EFFECT OF ENDOCHITINASE AND CHITOBIOSIDASE AND THEIR

ITTLE OF INVENTION: ENCORING GENES ON PLANT GROWTH AND DEVELOPMENT:

ITTLE OF INVENTION: ENCORING GENES ON PLANT GROWTH AND DEVELOPMENT:

ITTLE OF INVENTION: ENCORING GENES ON PLANT GROWTH AND DEVELOPMENT:

ITTLE OF INVENTION UNMBER: US/09/748,033

CURRENT FILING DATE: 1999-12-22

PRIOR FILING DATE: 1999-12-23

NUMBER OF SEQ ID NOS: 8

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 3

LENGTH: 376

ITTPE: PRI

CURRENT: STEPPE: PRI

CORGANISM: Streptomyces albidoflavus
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                                                                                                            GlyThrGlnLysPheThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsn
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              GlnAsnLeuAspPheValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLysVal
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EKVTGHNSPLYKRQEESGAAASLNVDAAVQOMLQKGTPASKIJLGMPTYGRSFTLASS
SDTVGQAPATGGSTPGPFTKBGGMLAYVEVCSWKGATKORIDQKVYPYIFDNOWVGF
DDVGSFKTKVSYLKGKGLGGAMVWALDLDDPAGFSCNQGRYPJIQTLAQBLSLPYLPS
GTPELEVPKPGQPSEPEHGPSPGQDTFCQGKADGLYPNPRERSSFYSCAAGRLFQQSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 product = "chitotriosidase precursor"
protein id="AAC50246.1"

db_xref="GI:1050958"
/translation="MVRSVAWAGFMVLLMIPWGSAAKLVCYFTNWAQYRQGEARFLPK
              PRI 03-NOV-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGLKKMNPKLKTLLAIGGWNFG
TQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPGSQGSPAVDKERFTTLVQ
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                                                                                                         Bukaryota; Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia; Butheria, Primates, Catarrhini; Hominidae, Homo.
1 (bases 1 to 1633)
Boot, R.G., Renkema, G.H., Strijland, A., van Zonneveld, A.J. and
Aerte, J.M.
                                                                                                                                                                                                                                                                                                                                                                                                        cell_type="macrophage"
| clone lib="macrophage-1 cDNA library of Rolf G. Boot"
| 3. .1413
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                                                                                                                                                                                   of a cDNA encoding chitotriosidase, a human chitinase
             1633 bp mRNA linear precursor mRNA, complete cds.
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J. Biol. Chem. 270 (44), 26252-26256 (1995)
96064695
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76. .1410
/product="chitotriosidase"
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/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="Ch1.1"
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Gray, P.W. and Tjoelker, L.W.
Chitinase chitin-binding fragments
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Sequence 1 from patent US 6399571.
AR212138 GI:21515643
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S Gray, P.W.
Chitinase materials and methods
AL Patent: US 6372212-A 1 16-APR-2002;
Location/Qualifiers
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AR206041
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IS 6399571-A 1 04-JUN-2002;
Location/Qualifiers
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Allison, D. S., Dietsch, G.N., Gray, P.W., Shaw, K.D. and Steiner, B.H. Human chitinase immunoglobulin fusion proteins
Patent: Wo 0123430-A 1 05-APR-2001;
ICOS CORPORATION (US)
Location/Qualifiers
                                                                                                      301 ValProTyrIlePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys
                           905 GCCTACTATGAAGTCTGCTCCTGGAAGGGGGCCACCAAACAGAGATCCAGGATCAGAAG
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		Qy         401 GlyLysAlaAspGlyLeuTyrProAsnProAsnProArgGluArgSerSerPheTyrSerCysAla 420	441	44	ARI/2107.1 G1:1/911598 Unknown. Unclassified. 1 (bases 1 to 1643) Aerts, J.Maria.Franciscus.Gerardus.	TITLE Human chitinase, its recombinant production, its use for decomposing chitin, its use in therapy or prophylaxis against infection diseases JOURNAL Patent: US 6303118-8 3 16-OCT-2001;	rce	Alignment Scores: 1.91e-175 Length: 1643 Pred. No.: 2394.00 Matches: 444 Score: 100.00% Conservative: 0 Best Local Similarity: 100.00% Mismatches: 0	99.83% 6 445) x AR172107 (1	Oy 2 LysLeuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPheLeu 21	Qy         22 ProLysAspLeuAspProSexLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThr 41
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GCAGCGGTTCCAGCTGGGCAGACCTATGTGGATGCTGGATACGAGGTGGACAAAATCGCC
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Unclassified.
3 I (bases 1 to 1656)
S Gray, P.W. and Tjoelker, L.W.
Chitinase chitin binding fragments
AL Patent: US 6395571-A 3 04-JUN-2002;
Location/Qualifiers
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Sequence 3 from patent US 6399571.
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/db_xref="taxon:9606"

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SDTRVQAPATGSGTPGPFTKEGGMLAYYEVCGNKGATKQRIDQKVYBT FRDNONWGF
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1656)
Allison, D.S., Dietesch, G.N., Gray, P.W., Shaw, K.D. and Steiner, B.H. Human chitinase immunoglobulin fusion proteins
Patent: WO 0123430-A 3 05-APR-2001;
ICOS CORPORATION (US)
 GCCTACTATGAAGTCTGCTCCTGGAAGGGGGCCACCAAACAGAGAATCCAGGATCAGAAG
                             ValProTyrilePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys
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SOURCE
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AUTHORS
TITLE
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Length:
Matches:
Conservative:
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TOKETDWVATANNROTEVNSAIRFILRKYSFDGLDLDWBYPGSQGSPAVDKERFTTLVQ
DLANRAQDBAGTSGRENLLLSAAVPROGTYVDDAGYBVDNGADNLDFVNLAYDPHGSW
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                                                                                                                                                               /product="chitotriosidase"
1166. .1236
Thote="alternatively spliced exon, absent in 50 kDa chitotriosidase (GenBank Accession Number U29615), fragment contains stop codon, therefore coding for protein of 40 kDa"
1673. .1678
1673. .1710
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Matches:
Conservative:
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Best Local Similarity:
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polyA_site
COUNT 379
                                                                                                                                 sig_peptide
mat_peptide
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                      ACCAAGGTCAGCTATCTGAAGGAGAAGGGACTGGGCGGGGCCATGGTCTGGGCACTGGAC 1109
                                                                                                                               GCGGGGCGCTGTTCCAGCAAAGCTGCCCGACAGGCTGGTGTTCAGCAACTCCTGCAAA 1409
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Direct Submission
Submitted (01-JUL-1996) Department of Biochemistry, AMC, University
of Amsterdam, Meibergdreef 15, Amsterdam 1105 AZ, The Netherlands
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Homo sapiens
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1710)
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   ThrLysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp
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Boot,R.G., Renkema,G.H., Verhoek,M., Strijland,A., Bliek,J.,
Meulemeester,T.M., Mannens,M.M. and Aerts,J.M.
The human chitotriosidase gene. Nature of inherited enzyme
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1. .1710
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10. .1773
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/product="chitotriosidase precursor"
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J. Biol. Chem. 270 (44), 26252-26256 (1995)
96064695
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J. Biol. Chem. 273 (40), 25680-25685 (1998)
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673	Oy 221 AsnvalAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeulle 240	Oy 241 LeuGlyMetProThrTyrGlyArgSerPheThrLeuAlaSerSerAspThrArgVal 260  193 CTTGGCATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATGAGACACAGAGTG 852	Qy         261 GlyAlaProAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyGlyMetLeu 280           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	281 AlaTyrTyrGluValCysSerTrpLysGlyAlaThrLysGlnArglleGlnAspGlnLys [	913 GCCIACIAIGAAGICIGCICCIGSAAGGSGCCACCAAAACAGAAAICAGGAICAGGAICAGAAG 973 301 ValProTyrIlePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys 32 1 [	321 ThrLysValSerTyrLeuLysGlnLysGlyLeuGlyClyAlaMetValTrpAlaLeuAsp 1033 A[H]	341 LeuAspAspPheAlaGlyPheSerCysAsmGlnGlyArgTyrProLeuIleGlnThrLeu	361 ArgdInGluLeuSer	Db	Db 1212 CTGTGGGACTGTGCTTCAGGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTT 1271  Qy 377 GluValProLysProGlyGlnProSerGluProGluHisGlyProSerProGlyGlnAsp 396	1272 GAAGTICCAAAACCAGGTCAGCCTCTGAACCTGAGCTCAGGCCCCAGCCCTGGACAAGGA 13	Oy 397 ThrPheCysGlnGlyLysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPhe 416	Oy 417 TyrSerCysAlaAlaGlyArgLeuPheGlnGlnSerCysProThrGlyLeuValPheSer 436	437 AenSerCysLysCysCysThrTrpAsn 445	52 AACICCIGCAAAIGCIGCACCIGGAAI	ANT/2108 LICCUS DEFINITION Sequence 5 from patent US 6303118. ACCESSION AR172108 ACCESSION AR172108		REFERENCE 1 (bases 1 to 1713) AUTHORS Aerts, J. Maria Franciscus.Gerardus. TITLE Human chitinase, its recombinant production, its use for		JOHNAL PAKENT: US 530118-A 5 16-OCT-2001; FEATURES Location/Qualifiers 10.1713	

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and Biotechnology Center, National Institute of Technology
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Matches:
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Homo sapiens cDNA FLJ30603 fis, clone CD34C2000051, highly similar
AK055165
                                               979 CCCTACATCTTCCGGGGCACAACCAGTGGGGTCGGCTTTGATGTGGAGGAGCTTCAAAACC 1038
                                                                                                                                                                1337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (24-001-2001) Takao Isogai, Helix Research Institute, Genomics Laboratory; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:genomics@hri.co.jp, Tel:81-28-3975, Fax:81-4188-52-3986) NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology (RAB); cDNA library construction: Helix Research Institute (HRI) (supported by Japan Key Technology Center etc.); 5'- & 3'-end one pass sequencing: RAB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1338 TTCTGCCAGGGCAAAGCTGATGGGCTCTATCCCAATCCTCGGGAACGGTCCAGCTTCTAC 1397
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Kadaiza, H., Furya, T., Takahashi, M., Kikkawa, E., Cmura, Y., Abe, K.,
Kamihara, K., Katsuta, N., Sato, K., Tanikawa, M., Yamazaki, M.,
Sugiyama, T., Irie, R., Otsuki, T., Sato, H., Wakamatsu, A., Ishi, S.,
Kamamoto, J., Isono, Y., Kawai-Hio, Y., Saito, K., Nishikawa, T.,
Kimura, K., Yamashita, H., Matsuo, K., Nakamura, Y., Sekine, M.,
Kikuchi, H., Murakawa, K., Kanehori, K., Takahashi-Fulii, A.,
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NEDO human cDNA sequencing project
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Mammalia; Eutheria; Primates, Catarrhini, Hominidae, Homo.
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oligo capping; fis (full insert sequence).
Homo sapiens CD34+ Cells cDNA to mRNA, clone_lib:CD34C2
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Isogai,T., Otsuki,T. and Sugiyama,T.
Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlySerGlnGlySerProAlaValAspLysGluArgPheThrThrLeuValGlnAspLeu 141
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Identification of a novel acidic mammalian chitinase distinct from chitocriosidase
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Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

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Meibergdreef 15, Amsterdam 1105
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Submitted (26-UUL-2000) Dept. of Biochemistry, Center, University of Amsterdam, Meibergdreef AZ, The Netherlands
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Price, P.A., Harris, S.C. and Williamson, M.K.
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Unpublished
(Asses 1 to 1526)
Price, P.A. Harris, S.C. and Williamson, M.K.
Direct Submission
Submitted (26-MAY-1999) Biology, University of California, San
                                                                                                                   ValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeulleLeu
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                                                                                  GGAGAGAACAGCCCCCTCTACAAATACCCGACTGACACCGGCAGCAACGCCTACCTCAAT
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MREAFEGEA I ESURPRILATAAVAGGI SNI OAGYEI PELSKYLDFIHWITYDLHGSWE
GYTGENSPILKY PIETGSNAYLNUDYVMYYKNUGAPAKLI VGFPEYGHTFILKNDS
DNGI GAPTSGDGPAGPYTAGGFWAYYEI CTFLRSGATEWDASQEVPYAYKANEWLG
YDN IKSFSYKAQWIKGOAFWAI NAI DLDDPTGSFCDOGKFPLTSTLINKALGI STEG
CTAPDVPSEPVTTPPGSGSGGSSGGSSGGSCFCADKADGLY PVADDRNAFWQCI NGI
                                                                                                                                                                                                                                                                                                                                                                                 INPCLCTHLIYAFAGMONNEITTIEWNDVTLYKAFNDLKNRNSKLKTLLAIGGWNFGT
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381 c 364 g 398 t
                                                                                                                                                                                                                                                                                      product="putative chitinase precursor"
protein_id="AAF31644.1"
/db_xref="G1:6934190"
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Matches:
Conservative:
Mismatches:
Indels:
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394. 417
/gene="YNL"
                                       /organism="Mus musculus"
/strain="ATCC1476668"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-004-219B-10 (1-445) x AF154571 (1-1526)
                                                                               |db_xref="ATCC:1476668"
|db_xref="taxon:10090"
|clone="IMAGE 1209227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYQQHCQAGLVFDTSCNCCNWP'
Location/Qualifiers
                                                                                                                                                 type="skin
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Clone distribution: MGC clone distribution information can be found through the 1.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 24 Row: e Column: 11.

Location/Qualifiers
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                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
1 (bases 1 to 1538)
                                                                                                                                                                                                                                  Direct Submission
Submitted (25-JUL-2001) National Institutes of Health, Mammalian
Gene Collection (MCC), Cancer Genomics Office, National Cancer
Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Web site: http://www.hgsc.bcm.tmc.edu/cdna/
Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M.,
Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M.
Richards, S., Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="MGC:18771 IMAGE:4165150"
/tissue type="Galivary gland, 10 week old female mouse"
/clone_lib="NCI CGAP_SG2"
/lab host="MHOB"
Mus musculus, Similar to eosinophil chemotactic cytokine, clone MGC:18771 IMAGE:4165150, mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            product="Similar to eosinophil chemotactic cytokine"
/protein_id="AAH11134.1"
/db_xref="G1:15029822"
                                                                                                                                                                                                                                                                                                                                                        Contact: MGC help desk
Email: ggapbs-r@mail.nin.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
MAS Sequencing by: Baylor College of Medicine Human Genome
Sequencing Center
Center code: BCM-HGSC
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236
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/organism="Mus musculus"
/db_xref="taxon:10090"
/map="FVB/N"
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                                                                                                           house mouse.
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  ATCADATITICIGCGICAGIAIGGGITIGAIGGACIGGACCIGGACTGGGAAIACCCAGGC 426
                                                                                                                               162
                                                                                                                                                                      546
                                                                                                                                                                                                                ValProAlaGlyGlnThrTyrValAspAlaGlyTyrGluValAspLysIleAlaGlnAsn 182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 ArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLys 380
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                                              SerGlnGlySerProAlaValAspLysGluArgPheThrThrLeuValGlnAspLeuAla
                                                                                                                                                       487 GAAGCTTTTGAGCAGGAGGCTATTGAGAGCAACAGGCCCAGACTGATGGTTACTGCTGCT
                                                                                                                                                                                                                                                          GTÁGCTGGTGGGATTTCCAACATCCAGGCTGGCTÁTGÁGATCCCTGAACTTTCTAAGTAC
                                                                                                                                                                                                                                                                                                    LeuAspPheValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLysValThrGly
                                                                                                                                                                                                                                                                                                                            GAGAATAGTCCTTTTACAAATACCCTACTGAGACTGGTAGCAATGCCTACCTCAATGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MetProThrTyrGlyArgSerPheThrLeuAlaSerSerSerAspThrArgValGlyAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TyrGluValCysSerTrp-----LysGlyAlaThrLysGlnArgIleGlnAspGlnLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               321 ThriysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1087 CTTGATGACTTCACTGGCTCTTTCTGTGATCAGGGAAAATTTCCTCTGTGACTTCTACTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      389 HisGlyProSerProGlyGlnAspThrPheCysGlnGlyLysAlaAspGlyLeuTyrPro
                                                                                     427 TCACGTGGGAGCCCTCCTCAGGACAAGCATCTCTTCACTGTCCTGGTGAAGGAAATGCGT
                                                                                                                               143 AsnAlaPheGlnGlnGluAlaGlnThrSerGlyLysGluArgLeuLeuLeuSerAlaAla
                                                                                                                                                                                                                                                                                                                                                                                     HisAsnSerProLeuTyrLysArgGlnGluGluSerGlyAlaAlaAlaSerLeuAsnVal
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ROD 07-AUG-2002

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                           ------CCTTCCGAGCCAGTGACTACTCCTCCAGGAAGTGGGAGTGGGGGTGGAAAGC 1246
                                                                                                                      1247 TCCGGAGGAAGCTCTGGAGGCAGTGGATTCTGTGCCGACAAAGCAGATGGCCTCTACCCT 1306
                                                                                                                                                                                                                    1307 GTGGCAGATGACAGAAATGCTTTTTGGCAGTGCATCAATGGAATCACATACCAGCGCAT 1366
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Direct Submission
Direct Submission
Submitted (24-JUL-2002) National Institutes of Health, Mammalian
Gene (21-Julection (MGC), Cancer Genomics Office, National Cancer
Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clone distribution: MGC clone distribution information can be for through the I.M.A.G.E. Consortium/LLML at: http://image.llnl.gov Series: IRAK Plate: 24 Row: h Column: 16
This clone was selected for full length sequencing because it passed the following selection criteria: Similarity but not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    week old female mouse"
                                                                    389 HisGlyProSerProGlyGlnAspThrPheCysGlnGlyLysAlaAspGlyLeuTyrPro
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Mus musculus, chitinase, acidic, clone MGC:19045 IMAGE:4189080,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center code: BCM-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.!
Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, Richards, S., Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tissue Procurement: Jeffrey E. Green, M.D. CDNA Library Preparation: Life Technologies, Inc. CONA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Baylor College of Medicine Human Genome Sequencing Center
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|TGTCAAGCAGGGTTGTTTTTGATACCAGCTGTAATTGCTGCAACTGG 1414
                                                                                                                                                                                                                                                                    CysProThrGlyLeuValPheSerAsnSerCysLysCysCysThrTrp
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Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
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/clone_lib="NCI_CGAP_SG2"
/lab_host="DH10B"
/note="Vector: pCMV-SPORT6"
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/product="chitinase, acidi
/protein_id="AAH34548.1"
/db_xref="Gi:21961191"
/db_xref="LocusID:81600"
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/db_xref="taxon:10090"
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                         GlnLysPheThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsnSerAla 102
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                                                                                             43 HisGlnLeuSerThrThrGluTrpAsnAspGluThrLeuTyrGlnGluPheAsnGlyLeu 62
23 LysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThrAsn 42
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Search completed: June 29, 2003, 23:53:45 Job time: 2918.5 secs

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CDNA sequence #402

Bovine oviduct spe Osteoarthritis tis

Disease treatment

Murine oviduct spe Hamster oviduct sp Drosophila melanog

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Gene encoding poly

Disease treatment Disease treatment Novel human coding

DNA encoding a hum

DNA encoding a

Title: Perfect score: Sequence:

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Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix; ss.
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305 GGCACTCAGAAGTTCACAGATATGGTAGCCACGGCCAACAACCGTCAGACCTTTGTCAAC
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                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           other;
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                  /product= chitinase
/note= "from clone MO-218"
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                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 3; Page 38-40; 63pp; English.
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   /*tag= a
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65..1399
/*tag= c
/product=
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Best Local Similarity:
Query Match:
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                                                                                                                                                                                                                               14-JUN-1996;
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                                                                                                                              WO9747752-A1
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                  sig_peptide
                                                  mat_peptide
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protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life-threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other;
                                                                    MO-218 clone of human Chitinase, with
                                                                                                                                                                                                                                                                                                                                                                                                          Example 1; Page 55-57; 83pp; English.
                                                                                                                                          Location/Qualifiers
2..1402
                ВР
                AAZ21847 standard; DNA; 1636
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                                                   10-DEC-1999 (first entry)
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infections in animals
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                                                                                                                                                                                                                                                                               12-MAR-1999;
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                                                                                                                         Homo sapiens
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                                                                                                                                                                                                                                                              16-SEP-1999
                                                                                                                                                                               sig peptide
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Alignment Scores:
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The homo polymer of beta-1,4-linked N-acetylglucosamine residues).

Chitinase fragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase. Polymucleotide fragments of detection and quantification of chitinase. Polymucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungi. Fungal infection treated include candidiasis, aspergillosis, coccidioidomycosis, blastopnaycosis, paracoccidioidomycosis, hlastoplasmosis, paracoccidioidomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, corrections of proper chitinase chitinase use of whole chitinase contain can be degraded by the enzyme chitinase with the carryer corrections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fragments of human chitinase used to treat fungal
                                                                                                                                                                                                                                                                                     chitin, fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; ds.
                                                                                                                                                                                                                                    noncoding 5'/3' regions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    *tag= a
product= Human_Chitinase
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'product= Signal_peptide
6..1402
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/product= Mature_protein
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                                                                                                                                                                                                                                                                      GlyLeuLysLysMetAsnProLysLeuLysThrLeuLeuAlalleGlyGlyTrpAsnPhe
                                                                                                                                                                                                                                                                                        GGCCTGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGAGGCTGGAATTTC
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                                                                                                                  1 AlaLysLeuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPhe
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Conservative:
Mismatches:
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                                                                                                        The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidiasis, aspergillosis, blastomycosis, coccidioidomycosis, protections in the thorowords, paracoccidioidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chomoblastomycosis, sportrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties. The present sequence is human chitinase company properties. The present equence is human chitinase company of the clone ph0-218. Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.
fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGCCCAAGGACTTGGACCCTTTGCACCCTCATCTACGCCTTTGGATG
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                                                1025 ACCAAGGTCAGCTATCTGAAGCAGAAGGGACTGGGCGGGGGCCATGGTCTGGGCACTGGAC
                                                                                                                                       1085 TTAGATGACTTTGCCGGCTTCTCCTGCAACCAGGGCCGATACCCCCTCATCCAGACGCTA
                                                                                                                                                                                                 361 ArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLyB
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                          ThrLysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp
                                                                                                            LeuAspAspPheAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThrLeu
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The present sequence is that of cDNA clone MO-218 (ATCC 98077)

encoding human chitinase (see ABB76291). The clone was isolated from a cDNA library prepared from peripheral blood monocyte-derived macrophages following sequence analysis. Also isolated was clone MO-13B (see ABL57381), which contains a single nuclectide difference in the coding region, changing the encoded amino acid at position 81 of the mature protein from glycine to serine. Northern blots showed highest chitinase gene expression in lung and ovary tissues.

Expression in lung is consistent with a protective role against pathogenic organisms that contain chitin. The invention provides human chitinase polymucleotides and plypeptides, and materials and methods for the recombinant production of human chitinase products.

Which are expected to be useful as products for treating fungal infections or for the development of such products. Human chitinase has a synergistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially activity of a non-chitinase antifungals, aspergillosis, coccidiolomycosis, paracoccidioidomycosis, histoplasmosis, cryptococcosis, cryptococcosis, chromoblastomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, sportichosis, mucormycosis, particular, the fungal infection involves candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other;
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                                                                                                                                                                          CTTGGCATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTG 844
                                                                                                                                                                                                                                          GlyAlaProAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMetLeu 280
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725 AACGTGGATGCTGCTGCTGCAACAGTGGCTGCAGAAGGGGGACCCCTGCCAGCAGCTGATC 784
                                                                                                                                                                                                                                                                 AsnValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIle
                                                                                                                                                   241 LeuGlyMetProThrTyrGlyArgSerPheThrLeuAlaSerSerAspThrArgVal
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/product= "Chitinase"
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A cDNA clone (AAT50833), designated chi.50, codes for a 50 kDa human chitinase (AAW06584) that is stable to many proceases, active at pH 3- and up to 50 deg, and stable in the circulation. Clones chi.50 and chi.39 (see also AAT50813) were isolated from a human macrophage CDNA library using as probe a partial clone obtd. using primers type 1 Gaucher disease patient. The 2 cDNA clones are the result of alternative splicing of RNA. Chitinase nucleic acid can be used for large-scale prodn. of recombinant human chitinases, or can be infection by chitin-contg, pathogens.
1265 GGCAAAGCTGATGGGCTCTATCCCAATCCTCGGGAACGGTCCAGCTTCTACAGCTGTGCA
                                          1325 GCGGGGCGGTGTTCCAGCAAAGCTGCCCGACAGGCCTGGTGTTCAGCAACTCCTGCAAA
                            AlaGlyArgLeuPheGlnGlnSerCysProThrGlyLeuValPheSerAsnSerCysLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New human chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                                                                                                                                                                                                             Chitinase, chitotriosidase, chitin, infectious disease, gene therapy, vaccine, lysosomal lipidosis, Gaucher's disease, leishmaniasis, sarcoidosis, X-linked adrenoleukodystrophy; multiple sclerosis; drug delivery; cosmetics; food; ss.
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Matches:
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                                                                                                                                                                                                                                                      Human chitinase cDNA clone chi.50.
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P-PSDB; AAW08584.
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Pred. No.:
Score:
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                                          80
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                                                        GlyThrGlnLysPheThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsn
                                                                                                               Serala11eArgPheLeuArgLysTyrSerPheAspG1yLeuAspLeuAspTrpG1uTyr
                                                                                                                                                                     ProGlySerGlnGlySerProAlaValAspLysGluArgPheThrThrLeuValGlnAsp
                                                                                                                                                                                                                               CCAGGAAGCCAGGGGAGCCCTGCCGTAGACAAGGAGCGCTTCACAACCCTGGTACAGGAC
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 1039 AAGGTCAGCTATCTGAAGCAGAGGGACTGGGCGGGGCCATGGTCTGGGCACTGGACTTA 1098
                                                                                                                                                                      LysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSerCysAlaAla 421
                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This sequence encodes a novel human chitinase isolated from clone MO-13B
                                                                                                                                     GGTCAGCCCTCTGAACCTGAGCATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGC
                         AspaspphealaGlyPheSerCysAsnGlnGlyArgTyrProLeulleGlnThrLeuArg
                                                GATGACTTTGCCGGCTTCTCCTGCAACCAGGCCGATACCCCCTCATCCAGACGCTACGG
                                                                                                                       GlyGlnProSerGluProGluHisGlyProSerProGlyGlnAspThrPheCysGlnGly
                                                                                                                                                                                              AAAGCTGATGGGCTCTATCCCAATCCTCGGAACGGTCCAGCTTCTACAGCTGTGCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                              Chitinase; human, fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acids encoding human chitinase - useful as antifungal especially in combination with other antifungals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= c
/product= chitinase
/note= "from clone MO-13B"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                       Human chitinase clone MO-13B cDNA
                                                                                                                                                                                                                                                                                                                                                 standard; cDNA; 1656 BP.
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                                                                                                                                                                                                                                                                                  ThrGlnLysPheThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsnSer 101
                                                                                                                                                                                                                                                                                                                                                  GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGAGGTACCCA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                 162 AlavalProAlaGlyGlnThrTyrValAspAlaGlyTyrGluValAspLysIleAlaGln 181
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACCTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAGAAGGTCACG
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                                                                                                                                                                                                                                                                                                                                   AlaileArgPheLeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyrPro
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           799 GGCATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTGGGG
                                                                                                  ProlysAspleuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThr
                                                                                                                                               LeuLysLysMetAsnProLysLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPheGly
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CC chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or calls expressing them or to generate transgenic ('knockout') rodents. CC it can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit cc rheumatoid arthritis, where overexpression of the protein can damage cc rheumatoid arthritis, where overexpression of the protein can damage cc the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents, and thus of their side effects.
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g	ā	CTTGGCATGCCT	TACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGT	98
ò	261	GlyAlaProAla	GlyAlaProAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMetLeu	28
đ	870	GGGCCCCCAGCC	:acagggtctggcactccaggccccttcaccaaggaaggagggatgct	92
ò	281	AlaTyrTyrGlu	AlarytyrgluValCysSerTrpLygGlyAlaThrLygGlnArgIleGlnAspGlnLys	30
qq	930	sccracrarga	agtetgetectegaagggggecaccaaaaaaaaatecagaateaaa	686
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ò	341	LeuAspAspPheAlaG	AAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuileGlnThrLeu	360
qa	1110	TTAGATGACTTT	roccooctricicadecadoccoaracecercarecadas	11
ò	361	ArgGlnGluLeu	rgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLys	38
qq	1170	CGCCAGGAACTG	sagreficeatactigecticagecaceceagactigaagitecaaa	4 1229
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ò	401	GlyLysAlaAsp	GlyLysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSerCysAla	4
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ò	421	AlaGlyArgLeu	AlaGlyArgLeuPheGlnGlnSerCysProThrGlyLeuValPheSerAsnSerCysLys	3 440
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ò	441	CysCysThrTrpAsn	DASD 445	
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¥83	MO-13B cl	one	Chitinase, with noncoding 5'/3' regions.	
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This is the nucleotide sequence of an allelic form of the human chitnase enzyme, which is capable of degrading Chitin (a linear chitinase enzyme, which is capable of degrading Chitin (a linear home polymer of beta-1,4-linked N-actylgiucosamine residues).

Chitinase fragments can be used to screen for proteins or other modulate its activity. These compounds are useful for chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments of conjugated to antifungal compounds, are used to treat animals, infected with chitin-containing parasites such as fungi. Fungal infection treated with chitin-candidiasis, aspergillosis, coccidioidomycosis, histoplasmosis, paracoccidioidomycosis, sporotrichosis, and dermatophycose.

Chitin can be degraded by the enzyme chitinase. Use of whole chitinase protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life- threatening fungal infection in e.g. immunocompromised individuals, there exists a cheff in the increasing fungal infection in e.g. immunocompromised intentifying new compounds for treating fungal intection in e.g. immunocompromised intentify men endicated in the increasing inventify menced in the increasing inventify menced in the increasing inventify menced in the increasing inventify menced in the increasing endicities and endicated in the increasing inventify menced in the increasing endicities and endicated in the increasing inventify menced in the increasing endicities of the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endicated intentify in the endintentify in the endicated in the endicated in the endicated in th
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                                                                                                                                                                                                                                                                                                                               chitin-binding fragments of human chitinase used to treat fungal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chitin-binding fragments of the present invention provide this need
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Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                                                      Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcoccinomoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses; clone pMO-13B; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27..89
/*tag= b
90..1424
/product= "Human mature chitinase from clone pWO-13B"
                                                                                                                                                                                                                                                                                                                                                                                                                        77.1427
*tag= a
product= "Human chitinase from clone pMO-13B"
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                                                                                                                                                                          Human chitinase cDNA from clone pMO-13B.
                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
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                                         AAD03760 standard; cDNA; 1656 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-SEP-2000; 2000WO-US26960
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                                                                                                                              (first entry)
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P-PSDB; AAE00433.
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                                                                                                                                 19-JUN-2001
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                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
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                                                                                     AAD03760;
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RESULT 8
                       AAD03760
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The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidiaels, aspergillosis, blastomycosis, croptococcosis, chromoblastomycosis, histoplasmosis, mucormycosis, croptococcosis, chromoblastomycosis, histoplasmosis, mucormycosis, croptococcosis, chromoblastomycosis, paracoccidioidomycosis, processing and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation product has unexpectedly improved serum half-life and formulation producties. The present sequence is human chitinase cDNA from clone pw0-13B. Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.

Sequence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other;

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Alignment Scores:

Alignment Scores:

Score:
Score:
Best Local Similarity:
Ouery Match:

22 9,75$

Gaps:

Alignment Scores:

288e-200

Matches:
444

444

Conservative:
0

Gaps:
0
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US-10	-004-219B-10 (1-445) x AAD03760 (1-1656)
ò	ValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPhe
qu	GCAAAACTGGTCTGCTACTTCACCAACTGGGCCCCAGTACAGACAG
ò	AspLeuAspProSerLeuCysThrHisLeulleTyrAlaPheAlaGlyMet
QQ	0 CTGCCCAAGGACTTGGACCCCAGCCTTTGCACCCCACCTCATCTACGCCTTCGCTTGGTTG
ð á	41 ThrashHisGlnLeuSerThrThrGluTrpAshAspGluThrLeuTyrGlnGluPheAsn 60
3 6	
දු දු	ASDPDE        AATTTC
ò	81 GlyThrGlnLysPheThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsn
ΩD	330 AGCACTCAGAAGTTCACAGATATGGTAGCCACGGCCAACAACCGTCAGACCTTTGTCAAC 389
ò	SerAlaileArgPheLeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyr
q	TCGGCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTAC
કે <i>દે</i>	121 ProGlySerGlnGlySerProAlaValAspLysGluArgPheThrThrLeuValGlnAsp 140
3	20000000000000000000000000000000000000
Ş E	141 LeuklaAstallaPheGlnGlnGluklaGlnThrSerGlyLysGlukrgLeuLeuSer 160 
3	170017117171777777777777777777777777777
ð 8	161 AlaAlaValProAlaGlyGinThrTyrValAspAlaGlyTyrGluValAspLySileAla 180 570 GLAGGGGGGGGGGGGGGGGGGGAGGGATGGGGGATAGGGGGG
6	81 GlnAsnLeuAsppheValAsnLeuMetAlaTvrAspPheHisGlvSerTrpGluLvsVal
7 _. 8	30 CAGAACCTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAAGGTC
ò	201 ThrGlyHisAsnSerProLeuTyrLysArgGlnGluGluSerGlyAlaAlaAlaSerLeu 220
ΩP	ACGGGACATAACAGCCCCCTCTACAAGAGGCAAGAAGAGAGGGGGGGG
ò	AsnValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIle
ΩP	SCAAGCTGATC
ò	LeuGlyMetProThrTyrGlyArgSerPheThrLeuAlaSerSerSerAspThrArgVal
Ωp	CTTGGCATGCCTACCTACGACGCTCCTTCACACTGGCCTCCTCATCAGACACCAGAGTG
λο	261 GlyAlaProAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMetLeu 280
gg	o edesceccadadestradoactecadescecerteaceaadaaadaatsers
ò	1 AlaTyrTyrGluValCysSerTrpLysGlyAlaThrLysGlnArglleGlnAspGlnLys
qq	o eccracrargaagrerecregaagggggeccaccaaacagaarecaggareagaag
ò	ValProTyrilePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys 320
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& £	321 ThriysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp 340
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                                                                                1230 CCAGGTCAGCCCTCTGAACCTGAGCATGGCCCCAGCCCTGGACAAGACACGTTCTCCCCAG 1289
                                                                                                                                       1290 GGCAAAGCTGATGGGCTCTATCCCAATCCTCGGAACGGTCCAGCTTCTACAGCTGTGCA 1349
                                                                                                                                                                           1350 GCGGGCGGCTGTTCCAGCAAAGCTGCCCGACAGGCCTGGTGTTCAGCAACTCCTGCAAA 1409
                                                                                                                                                             440
1110 TTAGATGACTTTGCCGGCTTCTCCTGCAACCAGGCCGATACCCCCTCATCCAGACGCTA 1169
                                                                    400
                                                                                                                  420
                                                                                                                                                              421 AlaGlyArgLeuPheGlnGlnSerCysProThrGlyLeuValPheSerAsnSerCysLys
                     ArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLys
                                           1170 ceccacadacreactricaractrecerrescerrescereceasactreaaaa
                                                                    ProGlyGlnProSerGluProGluHisGlyProSerProGlyGlnAspThrPheCysGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis
                                                                                                                GlyLysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSerCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence is that of cDNA clone MO-13B (ATCC 98078) encoding human chitinase (see ABB76292). The clone was isolated from a cDNA library prepared from peripheral blood monocyte-derived
                                                                                                                                                                                                                                                                                                                                                                         Chitinase; enzyme; human; fungicide; antifungal; infection; candidiasis; aspezgillosis; coccidioidomycosis; hastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sportritchosis; mucormycosis; dermatophytosis; chromoblastomycosis; sportritchosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; Column 31-34; 26pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
27..1427
/*tag= a
/product= "Chitinase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Chitinase"
                                                                                                                                                                                                                                                                                                                                                     Human chitinase cDNA clone MO-13B.
                                                                                                                                                                                                                                                                                BP
                                                                                                                                                                                                                                                                               ABL57381 standard; cDNA; 1656
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/*tag= c
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P-PSDB; ABB76292.
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macrophages using a probe based on human chitinase clone MO-218
difference in the coding region, causing anino acid position 81 of
the mature protein to be either serine or glycine. Northern blots
showed highest chitinase gene expression in lung and ovary tissues.
Expression in lung is consistent with a protective role against
pathogenic organisms that contain chitin. The invention provides
tuman chitinase polynucleotides and polypeptides, and materials and
methods for the recombinant production of human chitinase products,
which are expected to be useful as products for treating fungal
infections or for the development of such products. Human
chitinase has a synergistic effect on the actions of other
tungiciaes. It can be administered to improve the antifungal
activity of a non-chitinase antifungal agent, especially
amphotericin B or itraconazole, in the treatment of a fungal
infection such as candidiasis, aspergillossis, coccidioidomycosis,
cryptococcosis, chromoblastomycosis, histoplasmosis,
cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis,
cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis,
and/or Cryptococcus spp., whose growth is not effectively
inhibited by contact with human chitinase alone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SeralaileArgPheLeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         210 ACCAACCACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAAT
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Matches:
Conservative:
Mismatches:
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81 GlyThrGlnLysPheThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsn 100
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                                                                                                                      Chopra A, Gentz R, 'Kirkpatrick RB,
                                                                                                                                                                                                                          Claim 1; Page 21-22; 34pp; English
                                                                                      (HUMA-) HUMAN GENOME SCI INC.
(SMIK ) SMITHKLINE BEECHAM CORP.
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367 GGCCTGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTC 426
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      307 ACCAACCACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAAT
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                                                                                                                                                                                            New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g. rheumatoid arthritis
    Thotakura NR
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Matches:
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Chitotriosidase, tissue remodelling disorder; diagnosis, therapy, rheumatoid arthritis, atherosclerosis, human, ss.
                                          Human chitotriosidase cDNA
                      (first entry)
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AAT89180 standard; cDNA; 1637 BP.

RESULT 11 AAT89180 ID AAT89 XX

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This human cDNA sequence includes a coding region of chictoriosidase (see AAW31497). It is deposited as ATCC 69953. Variants of the sequence are provided, including the preferred sequence variant given in AAT89181. Also claimed are: (1) a method of diagnosing a tissue remodelling disorder related to expression of a mutated chictoriosidase protein in a host comprising carrying out nucleic acid amplification; and (2) a method of detecting altered expression of a chitotriosidase protein in a host
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g. rheumatoid arthritis
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comprising contacting a bodily sample with an antibody.
Chitotriosidase can degrade extracellular matrix substrates with a similar carbohydrate structure to chitin. It can be used to develop products which can be used in the diagnosis and treatment of tissue remodelling disorders such as rheumatoid arthritis or atherosclerosis. Chitotriosidase nucleic acids can be used in the recombinant production of the enzyme, and as probes or primers in diagnostic assays.
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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99.33*
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                                                                                                                          A cDNA clone (AAT50834), designated chi.39, codes for a 39 kDa human chitianse (AAW08584) that is stable to many proteases, active at pH 3- and up to 50 deg, and stable in the circulation. Clones chi.39 and chi.50 (see also AAT50833) were isolated from a human macrophage CDNA library using as probe a partial clone obtd. using primers (see also AAT50835-58) based on a chitotriosidase purified from a type I Gaucher disease patient. The 2 cDNA clones are the result of alternative splicing of RNA. Chitinase nucleic acid can be used for large-scale prodn. of recombinant human chitinases, or can be infection by chitin-contg. pathogens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGAAGAAGAAGCTCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGC
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                                                                  New human chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                                                                                                                                                                                  Seguence 1713 BP; 380 A; 503 C; 465 G; 365 T; 0 other;
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Matches:
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Gaps:
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                                                                                                         Claim 2; Page 42-43; 58pp; English.
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Best Local Similarity:
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GlyHisAsnSerProLeuTyrLysArgGlnGluGluSerGlyAlaAlaAlaSerLeuAsn
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484 GCAGTAGCTGGCATCTCCAATATCCAGTCTGGCTATGAGATCCCCCAACTGTCACAG
                                                                                                          ValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIleLeu
                                                                                                                                                                        GlyMetProThrTyrGlyArgSerPheThrLeuAlaSerSerSerAspThrArgValGly
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                              AsnLeuAspPheValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLysValThr
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                                                                                                                                                                                                                                                                                                                       The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligomucleotide described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProLysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThr
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                                                                                                                                                                                                                                              New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease
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Matches:
Conservative:
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Best Local Similarity:
                                 WO200136633-A1
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1049 TACTACGAGATCTGTACCTTCCTGAAAAATGGAGCCACTCAGGGATGGGATGCCCCTCAG 1108
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|GCTCCAGCTCAGCCCATTGAGCCAATAACTGCTGCTCCCAGTGGCAGCGGGAACGGGAGC 1387
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antiinfertility; cerebroprotective; cytostatic; rheumatic; gene therapy;
neuroprotective; antiparkinsonian; protein therapy; EST;
                                                                                                                                                                                                                                                                                                                                                                                                                                        LysThrLysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                  -----GluHisGlyProSerProGlyGlnAspThrPheCysGlnGlyLysAlaAsp
               749 TACCTGGACTACATCCATGTCATGACCTACGACCTCCATGGCTCCTGGGAGGGCTACACT
                                                                                                          ValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIleLeu
                                                                                                                                                                                                                 AlaproAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMetLeuAla
                                                                                                                                                                                                                                                                 TyrTyrGluValCysSerTrp-----LysGlyAlaThrLysGlnArglleGlnAspGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGAGTAGCAGCTCTGGAGGCAGCTCGGGAGGCAGTGGATTCTGTGCTGTCAGAGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------GGCCTGCAGAGTGCAAGTTGCACG
AsnLeuAspPheValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLysValThr
                                                    GlyHisAsnSerProLeuTyrLysArgGlnGluGluSerGlyAlaAlaAlaSerLeuAsn
                                                                    GGAGAGAACAGCCCCTCTACAAATACCCGACTGACACCGGCAGCAGCAACGCCTACCTCAAT
                                                                                                                                                              GlyMetProThrTyrGlyArgSerPheThrLeuAlaSerSerAspThrArgValGly
                                                                                                                                                                                                                                                                                                                               LysvalproTyrIlePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380 LysProGlyGlnProSerGluPro-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel human coding sequence SEQ ID NO: 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    expressed sequence tag; gene; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                         The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic coclusive pulmonary disease. The present sequence is an oligonucleotide described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         102 AlalleArgPheLeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AsnHisGlnLeuSerThrThrGluTrpAsnAspGluThrLeuTyrGlnGluPheAsnGly
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New proteins, peptides and DNA for treatment of bronchial asthma chronic occlusive lung disease and infectious disease
                                                                                                                                                                                                                                                                                                                                           Sequence 1678 BP; 397 A; 497 C; 418 G; 366 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                  1678
240
70
126
24
                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                 Example 5; Page 107-108; 114pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                  1.86e-106
1323.00
67.39%
52.17%
55.17%
                                                   14-NOV-2000; 2000WO-JP08015
                                                                            99JP-0324467
                                                                                                        (TAKE ) TAKEDA CHEM IND
                                                                                                                                    Morita S;
                                                                                                                                                              WPI; 2001-397791/42.
                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
WO200136633-A1
                                                                              15-NOV-1999;
                                                                                                                                   Nakanishi A,
                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
Pred. No.:
                         25-MAY-2001
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WO200222660-A2

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The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTs). They can be used to stimulate cell growth, to regulate hamatopoiseis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate hamacostasis or thrombolysis e.g. to treat stroke and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                An isolated polynucleotide for treating diseases associated with its encoded polypeptide such as cancer and multiple sclerosis -
                                                                                                                                                                                                                                                                                               Zhou P, Asundi V, Zhang J,
Wehrman T, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID NO 404; 509pp; English
                                                                       10-SEP-2001; 2001WO-US26015
                                                                                                                                                 11-SEP-2000; 2000US-0659671
                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-292408/33
P-PSDB; ABB97580.
                                                                                                                                                                                                                                                                                                   Liu C,
Yang Y,
                                                                                                                                                                                                                        (HYSE-) HYSEQ INC
21-MAR-2002
                                                                                                                                                                                                                                                                                               Tang YT,
Xue AJ,
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Zhao QA,

e.y. rneumatola arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a coding sequence of the fivention Sequence 1369 BP; 327 A; 393 C; 341 G; 308 T; 0 other;

Alignment Scores: Pred. No.:	scores:	1.36e-84	Length:	1369
Score:		1072.50	Matches:	200
Percent Similarity:	nilarity:	64.53%	Conservative:	62
Best Local	Best Local Similarity:	49.26\$	Mismatches:	117
Query Match:		44.728	Indels:	27
DB:		. 24	Gaps:	4
US-10-004-2	219B-10 (1-44	US-10-004-219B-10 (1-445) x ABN59993 (1-1369)	(1-1369)	
λõ	S6 TyrGlnGlu	PheAsnGlyLeuLy	56 TyrglnGluPheAsnGlyLeuLysLysMetAsnProLysLeuLysThr	LysLeuLysThr
 qa	67 TATACTGAA	TTTGC		CTGAAAACT
λō	76 GlyGlyTrp	AsnPheGlyThrGl	76 GlyClyTrpAsnPheGlyThrGlnLysPheThrAspMetValAlaThr	ValAlaThr
Db da	118 GGAGGCTGG	AACTTCGGGACTGC	118 GGAGGCTGGAACTTCGGGACTGCCCTTTCACTGCCATGGTTTCTACT	GTTTCTACT
Š	96 GlnThrPhe	ValAsnSerAlaIl	96 GlnThrPheValAsnSerAlaIleArgPheLeuArgLysTyrSerPhe	TyrSerPhe

117 177 115 237 116 LeuAspTrpGluTyrProGlySerGlnGlySerProAlaValAspLysGluArgPheThr 135 297 ThrLeuValGlnAspLeuAlaAsnAlaPheGlnGlnGluAlaGlnThrSerGlyLygGlu 155 ArgleuLeuLeuSerAlaAlaValProAlaGlyGlnThrTyrValAspAlaGlyTyrGlu 175 417 176 ValAspLysIleAlaGlnAsnLeuAspPheValAsnLeuMetAlaTyrAspPheHisGly 195 75 92 rreuleualaile ; rccrgagaaccgc AspGlyLeuAsp TTTGACTGGGAGTACCCTGGCTCTCGTGGGAGCCCTCCTCAGGACAAGCATCTCTCACT Aggericangeneacreciacidenagenecrecinoscanecementes and aggerican and aggerican and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation and aggregation aggregation and aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggregation aggr AlaAsnAsnArg 238 136 298 156 418 358

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qa	478	rccrescaegecracacresadasadacaececercracadaraceceaereacaecesec
ò	216	AlaAlaSerLeuAsnValAspAlaAlaValGlnGlnTrpLeuGlnLySGlyThrPro 235
ар	538	AGCAACGCCTACCTCAATGTGGATTATGTCATGAACTACTGGAAGGACAATGGAGCACCA 597
ò	236	AlaserLysLeulleLeuGlyMetProThrTyrGlyArgSerPheThrLeuAlaserSer 255
QQ	598	dergagaadericaregarreceraceraridaacacaacricarecreageaacee 657
ò	256	
Q	658	rccaacacrosaarrosrocccccaccrosrosrosroscroscrosccoccaas 117
ò	276	GluGlyGlyMetLeuAlaTyrTyrGluValCysSerTrpLysGlyAlaThrLys 293
Db	718	GAGTCTGGGATCTGGGCTTACTACTACGAGATCTGTACCTTCCTGAAAAATGGAGCCACTCAG 777
'n	294	GlnArgIleGlnAspGlnLysValProTyrIlePheArgAspAsnGlnTrpValGlyPhe 313
. d	778	GGATGGGATGCCCTCAGGAAGTGCCTTATGCCTATCAGGGCAATGTGTGGGGTTGGCTAT 837
ò	314	AspAspValGluSerPheLysThrLysValSerTyrLeuLysGlnLysGlyLeuGlyGly 333
ορ	838	GACAACATCAAGAGCTTCGATATTAAGGCTCAATGGCTTAAGCACAACAAATTTGGAGGC 897
&	334	AlaMetValTrpAlaLeuAspLeuAspAspPheAlaGlyPheSerCysAsnGlnGlyArg 353
QQ	868	GCCATGGTCTGGGCCATTGATCTGGATGACTTCACTGGCACTTTCTGCAACCAGGGCAAG 957
δ	354	TyrProLeulleGlnThrLeuArgGlnGluLeuSerLeuProTyrLeuProSerGlyThr 373
ф	958	TTTCCCCTAATCTCCACCCTGAAAAGGCCCTC
δλ	374	ProGluLeuGluValProLysProGlyGlnProSerGluPro 387
qa	997	CAGAGTGCAAGTTGCACGCTCCAGCTCAGCCCATTGAGCCAATAACTGCTGCTCCCAGT 1056
ò	388	
QQ	1057	ggcaggaggaggagggggaggaggrccrddagggadcrgadaggagagagagagagagagagagagagagagagaga
δ	399	CysGlnGlyLysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSer 418
qq	1117	Terecrercagaeccaaceecreracecerageaaaraacagaaargeerregeae 1176
ò	419	CysAlaAlaGlyArgLeuPheGlnGlnSerCysProThrGlyLeuValPheSerAenSer 438
qq	1177	Tecereaardeaercaceraccaecaeaereccaeecceeecriercriceacaccaec 1236
ò	439	CyslysCysCysThrTrp 444
qq	1237	idigariderecaeride 1254
Search co Job time	completed: e : 266.223	ed: June 29, 2003, 21:27:02 5.223 secs

Appl: Appl: Appli Appli Appli

Sequence 1 Sequence 1 Sequence 1

Appl Appl Appl Appl

Sequence

Seguence

Sequence:

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Run

Searched:

Sequence

Sequence Sequence

Sequence Seguence

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ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 233 South Wacker Drive/6300 Sears Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/09039198A
Patent No. 6200951
GENERAL INFORMATION:
APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION:
UNUBRICOS: CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Chicago
STATE: Illinois
CONTRY: United States of America
CONTRY: United States of America
ZIP: 66060-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Ploppy disk
COMPUTER: Ploppy disk
COMPUTER: PR PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/09/039,198A
FILING DATE:
          PCT-US94-07754-4
US-08-581-527-4
US-09-545-814-15
US-09-545-814-15
US-09-545-814-4
US-09-545-814-4
US-09-545-814-6
US-09-545-814-3
US-09-545-814-3
US-09-545-814-3
US-09-292-225-40
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US-09-293-235-14
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ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/34391
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (312) 474-6300
TELEFAX: (312) 474-648
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1636 base pairs
                                       2452
1677
1749
1749
22610
22610
1919
1470
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1608
1608
1665
1752
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2148.326 Million cell updates/sec
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                                                                                  ; Search time 63.5244 Seconds
                                                                                                                                                                     1 AKLVCYFTNWAQYRQGBARF......QQSCPTGLVFSNSCKCCTWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
                                                      OM protein - nucleic search, using frame_plus_p2n model
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US-08-877-599-1
US-09-67-574-1
US-09-151-011-3
US-09-151-011-3
US-09-039-198A-3
US-09-267-574-3
US-09-267-574-3
US-09-151-011-5
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                                                                                                                                                                                                                                                                                        441362 segs, 153338381 residues
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                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                  June 29, 2003, 21:12:38
                                                                                                                                                                                                             Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
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Maximum DB seq length: 200000000
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2398
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Database :

Result

Sequence

Sequence Sequence

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1144

1084

1324

420

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1145 CGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCAAAA 1204
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                                  905 GCCTACTATGAAGTCTGCTCCTGGAAGGGGCCACCAAACAGAGAATCCAGATCAGAAG
                                                                                                                                                                                                                                                                 1025 ACCAAGGTCAGCTATCTGAAGCAGAGGACTGGGCGGGGCCATGGTCTGGGCACTGGAC
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                                                                                      AlaTyrTyrGluValCysSerTrpLysGlyAlaThrLysGlnArgIleGlnAspGlnLys
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US-08-877-59-1
Sequence 1, Application US/08877599
Sequence 1, Application US/08877599
Patent No. 6372212
GENERAL INFORMATION:
FAPILICANT: Gray, Patrick W.
TITLE OF INVENTION:
CORRESPONDENCES: 17
CORRESPONDENCE ADDRESS:
FORESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
STREET: 6300 Sears Tower, 233 South Wacker Drive
CITY: Chicago
STATE: 1111nois
COUNTRY: United States of America
COUNTRY: United States of America
STATE: Illinois
COUNTRY: United States of America
CONFUTER: Eloppy disk
COMPUTER READALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: BARABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: STATE: 10.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
FILING DATE: 14-JUN-1996
ATTORNEY/AGENT INFORMATION:
NAME: RAIL-LAURES, LI-HSIEN
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
FELECOMMUNICATION INFORMATION:
REFERENCE/DOCKET NUMBER: 27866/33994
FELECOMMUNICATION INFORMATION:
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FELECOMMUNICATION INFORMATION:
RESERVENCE/DOCKET NUMBER: 27866/33994
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Mismatches:
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Matches:
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2398.00
100.00%
100.00%
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: cDNA
FEATURE:
                                                                                                                                                mat_peptide
65..1399
                                                                                                        2..1399
                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                  | NAME/KEY: CDS | LOCATION: 2..13 | FEATURE: | NAME/KEY: mat_p | LOCATION: 65..1 | US-09-039-198A-1
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965 GTGCCCTACATCTTCCGGGACAACCAGTGGGTGGGCTTTGATGATGATGATGAGGAGCTTCAAA 1024
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                                                                                                                  301 ValProTyrIlePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys 320
              725 AACGIGGAIGCIGCIGIGCAACAGIGGCIGCAGAAGGGGACCCCIGCCAGCAAGCIGAIC 784
                                GlyLysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSerCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE PEPERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/09267574; Patent No. 6399571; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                , NAME/KEY: mat_peptide
, LOCATION: (65)..(1399)
US-09-267-574-1
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LOCATION: (2)..(1399)
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Matches:
Conservative:
Mismatches:
Indels:
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IELEFAX: 312/474-0448
TELEX: 25-3856
INFORMATION FOR SEG ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1636 base pairs
TYPE: molleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
                                                                                                                                                                                                   3.59e-238
2398.00
100.00$
100.00$
                                                                                                                                                 NAME/KEY: mat_peptide
; LOCATION: 65..1399
US-08-877-599-1
                                                                                                                   NAME/KEY: CDS
LOCATION: 2..1399
                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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APPLICANT:
TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES. If
                                                                                                                                                                                ProGlyGlnProSerGluProGluHisGlyProSerProGlyGlnAspThrPheCysGln
                                                                                                                                                                                                                                                      1205 CCAGGTCAGCCCTCTGAACCTGAGCATGGCCCCAGCCCTGGACACAAGACACGTTCTGCCAG
                                                                                                                                                                                                                                                                                                                                            1265 GGCAAAGCTGATGGGCTCTATCCCAATCCTCGGGAACGGTCCAGCTTCTACAGCTGTGCA
                ThrLysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp
                                                  1025 ACCAAGGTCAGCTATCTGAAGCAGAAGGGACTGGGCGGGGCCATGGTCTGGGCACTGGAC
                                                                                      LeuAspAspPheAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThrLeu
                                                                                                         1085 TTAGATGACTTTGCCGGCTTCTCCTGCAAGGCCGATACCCCCTCATCCAGCGCTA
                                                                                                                                                             361 ArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLys
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STREET: 350 Jericho Turnpike
CITY: Jericho
STATE: New York
CUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: O7 - June - 1995
FILING DATE: 07 - June - 1995
ATTORNEY/AGENT INFORMATION:
NAME: BAZON, ROHAID J.
REGISTRATION NUMBER: 294-26
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1643 base pairs
TYPE: mucleic acid
STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Sequence 3, Application US/08486839; Patent No. 5928928; GENERAL INFORMATION:
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STREET: 350 Jericho Turnpike
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               Length:
Matches:
Conservative:
Mismatches:
Indels:
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               3.59e-238
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                                             Percent Similarity:
Best Local Similarity:
Query Match:
DB:
Alignment Scores:
Pred. No.:
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STREET: 350 Jericho Turnpike
CITY: Jericho
STATE: New York
COUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE:
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/09/343,623
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/486,839
FILING DATE: 07-June-1995
ATTOCNEY, AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTATION NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 294-26
TELECOMMUNICATION INFORMATION:
TELEPHONE: (516) 822-3550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/09343623
Patent No. 6303118
GENERAL INFORMATION:
APPLICANT:
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TELEFAX: (516) 822-3582
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                       Conservative:
Mismatches:
Indels:
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2394.00
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99.83%
                       Percent Similarity:
Best Local Similarity:
Query Match:
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TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann & Baron
STREET: 350 Jericho Turnpike
                                                                                                                                     421
                                                                                                                                                                                                                      401
                                                                                                                                                                                                                   1279 AAAGCTGATGGGCTCTATCCCAATCCTCGGGAACGGTCCAGCTTCTACAGCTGTGCAGCG
                                                                              1099 GAIGACTTTGCCGGCTTCTCCTGCAACCAGGCCGATACCCCCTCATCCAGACGCCTACGG
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1039 AAGGTCAGCTATCTGAAGCAGAAGGGACTGGGCGGGGCCATGGTCTGGGCACTGGACTTA 1098
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                                                                                                                                 AspAspPheAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThrLeuArg 361
                                                                                                                                                                                                                                     GlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLygPro 381
                                LysvalSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAspLeu 341
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 233 South Wacker Drive/6300 Sears Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Chicago
STATE: Illinois
COUNTRY: United States of America
ZIP: G6066-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION WUMBER: US/09/039,198A
FILING DATE:
CESSIFICATION: APPLICATION: APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLICATION APPLIC
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NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/34391
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/09039198A Patent No. 6200951 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (312) 474-6300
TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
LENGTH: 1656 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1399 TGCACCTGGAAT 1410
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LOCATION: 27..1424
FEATURE:
NAME/KEY: mat_peptide
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STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                162 AlaValProAlaGlyGlnThrTyrValAspAlaGlyTyrGluValAspLysIleAlaGln 181
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                          Length:
Matches:
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                                                                                                      990 GIGCCCTACATCTTCCGGGACAACCAGTGGGTGGGCTTTGATGATGTGGAGAGCTTCAAA
                                                              1050 ACCAAGGTCAGCTATCTGAAGCAGAGGACTGGGCGGGGCCATGGTCTGGGCACTGGAC
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                                                   321 ThrLysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp
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VESOUR. 9

Sequence 3, Application US/08877599

Patent No. 6372212

JITLE OF INVENTION:

APPLICANT: Gray, Patrick W.

TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSE: Marshall, O'Toole, Gerstein, Murray & Borun STREET: 61000 Sears Tower, 233 South Wacker Drive CITY: Chicago

STATE: 111inoids

STATE: 111inoids

COMPUTE: 101inoid States of America

ZIP: 6060-6402

COMPUTER: IBM PC compatible

OORENTING SYSTEM: PC-DOS/MS-DOS

SOFFWARE: Poppy disk

COMPUTER: IBM PC compatible

OORENTING SYSTEM: PC-DOS/MS-DOS

SOFFWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/877,599

FILING DATE: 14-JUN-1996

ATTORNEY/AGENT INFORMATION:

MAME: RID-Laures, Li-Hsien

REGISTRATION NUMBER: 33,547

REFERENCE/DOCKET NUMBER: 27866/33994

TELEPHONE: 312/474-6300

TELEPHONE: 312/474-6300
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INPORMATION POR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1656 base pairs
TYPE: nucleic acid
STRANDENNESS: single
TOPOLOGY: linear
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                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
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                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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US-09-039-198A-3
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                         ValProTyrIlePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys 320
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RESULT 9
US-09-267-3
US-09-267-3

| Sequence 3, Application US/09267574
| Patent No. 6399571
| GENERAL INFORMATION:
| APPLICANT: Tjoelker, Larry W. |
| TITLE OF INVEWINO: CHITINASE CHTIN-BINDING FRAGMENTS PILE REFREENCE: 27866/35407
| CURRENT APPLICATION NUMBER: US/09/267,574
| CURRENT APPLICATION NUMBER: 09/039,198
| EARLIER FILING DATE: 1998-03-12
| BARLIER FILING DATE: 1998-03-12
| NUMBER OF SEQ ID NOS: 39
| SEQ ID NO 3
| LENGTH: 1656
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Matches:
Conservative:
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ORGANISM: Homo sapiens
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LOCATION: (27)..(1424)
FEATURE:
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US-09-267-574-3
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                          1.53e-237
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99.78%
99.78%
                                                              NAME/KEY: mat_peptide
; LOCATION: 90..1424
US-08-877-599-3
                          CDS
27..1424
 MOLECULE TYPE: CDNA
                                                                                                                                          Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
             FEATURE:
. NAME/KEY:
LOCATION:
FEATURE:
                                                                                                                  Alignment Scores:
Pred. No.:
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TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES:
ADDRESSEE: HOffmann & Baron
                                                                                                                      1230 CCAGGTCAGCCCTCTGAACCTGAGCATGGCCCCAGGCCCTGGACAAGACACGTTCTGCCAG
                                                                                                                                                                               GlyLysAlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSerCysAla
                                          1170 CGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCCAGAGCTTGAAGTTCCAAAA
                                                                                                   ProGlyGlnProSerGluProGluHisGlyProSerProGlyGlnAspThrPheCysGln
                                                                                                                                                                                                          1290 GGCAAAGCTGATGGGCTCTATCCCAATCCTCGGGAACGGTCCAGCTTCTACAGCTGTGCA
                  ArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLys
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STATE: New York
COUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: PIEM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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Matches:
Conservative:
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Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/486,839
FILING DATE: 07 - June - 1995
ATTORNEY/AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTRATION NUMBER: 29,281
REPERENCE/DOCKET NUMBER: 294-26
TELECOMMUNICATION INFORMATION:
TELEPHONE: (516) 822-3550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LANDORMATION:
LOLBEHONE: (516) 822-3550
TELBEAK: (516) 822-3550
TELBEAK: (516) 822-3550
SEQUENCE CHRACTERISTICS:
LENGTH: 1713 base pairs
TYPE: nucleic acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 5, Application US/08486839
Patent No. 5928928
GENERAL INFORMATION:
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STREET: 350 Jericho Turnpike
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Best Local Similarity:
Query Match:
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US-10-004-219B-10 (1-445) x US-09-267-574-3 (1-1656)
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1099 GATGACTITGCCGGCTICTCCTGCAACCAGGCCGATACCCCCTCATCCAGACGCTACGG 1158
                                                                                                         1159 CAGGAACTGAA-TGGGTAAAGCCTTAACTGCCTGTCACATGTGAGGCCAGGTGTTGCCTG 1217
                                                                                                                                                                            1218 TGGCACTGTGCTTCAGCTGTAGGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAA 1277
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TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases
UNBER OF SEQUENCE: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann & Baron
                                                                                                                                                                                                                                      378 ValProLysProGlyGlnProSerGluProGluHisGlyProSerProGlyGlnAspThr 397
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#1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Hoffmann & Baron
STREET: 350 Jericho Turnpike
CITY: Jericho
STATE: New York
COUNTRY: United States of America
ZIP: 1179E: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/486,839
FILING DATE: 07-June-1995
ATTOCNEY/AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTRATION NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 294-26
TELECOMMUNICATION INPORMATION:
TELEPHONE: (516) 822-3550
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APPLICATION NUMBER: US/09/343,623
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 5, Application US/09343623
Patent No. 6303118
GENERAL INFORMATION:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (516) 822-3550
TELEPAX: (516) 822-3582
INFORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS:
TYPE: nucleic acid
TYPE: nucleic acid
STRANDEDNESS: unknown
MOLECULE TYPE: cDNA
HYPOTHETICAL: NO
US-09-343-623-5
                                                              362 GinGluLeuSer---
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                                                                                                                                                                         22 ProLysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThr
                                                                                                                                                                                                                                                              42 AsnHisGlnLeuSerThrThrGluTrpAsnAspGluThrLeuTyrGlnGluPheAsnGly
                                                                                                                                                                                                                                                                                   62 LeulyslysMetAsnProlysleulysThrleuleuAlalleGlyGlyTrpAsnPheGly
                                                                                                                                                                                                                                                                                                                                                                                       CTGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 379 GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCA
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                                            US-10-004-219B-10 (1-445) x US-09-151-011-5 (1-1713)
    Gaps:
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ValProlysProglyGlnProSerGluBroGluHisGlyProSerProGlyGlnAspThr 397
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                                                                                                   CAGGAACTGAA-TGGGTAAAGCCTTAACTGCCTGTCACATGTGAGGCCAGGTGTTGCCTG 1217
                                                                                                                      AspaspPhealaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThrLeuArg 361
        US-08-694-915-1

Sequence 1, Application US/08694915

Patent No. 5811535

Sequence 1, Application US/08694915

Patent No. 5811535

APPLICANT: Adamou, Julie

APPLICANT: Rirhpatrick, Robert.
APPLICANT: Rosenberg, Martin

TITLE OF INVENTION: HUMAN CARTILEGE GENE

NUMBER OF SEQUENCES: 7

CORRESPONDENCE 30

STREET: 709 Swedeland Road

CITY: King of Prussia

STREET: 19406-2799

COUNTRY: Wing of Prussia

STATE: PA

COUNTRY: USA

IPPLICATION DOS

SOFTWARE: PastSEQ Version 1.5

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/694,915

FILING DATE:

CLASSIFICATION DATA:

APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Han, William T
REGISTRATION NUMBER: 34,344
REFERENCE/DOCKET NUMBER: ATGS0017
TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-270-5219
                                                                                                                                                                                                                                                                                         1458 TCCTGCAAATGCTGCACCTGGAAT 1481
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TELEX:
INPORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 1433 base pairs
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Matches:
Conservative:
Mismatches:
Indels:
                                                                         US-10-004-219B-10 (1-445) x US-09-343-623-5 (1-1713)
                                                       Gaps:
        5.04e-233
2348.50
94.66%
94.66%
97.94%
                  Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
Alignment Scores:
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FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Han, William T
REGISTRATION NUMBER: 34,344
REPERBNCE/DCOKET NUMBER: ATGS0017
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-694-915-3
; Sequence 3. Application US/08694915
; Patent No. S811535
; GENERAL INFORMATION:
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FastSEQ Version 1.5
   IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
ZIP: 19406-2799
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM Con
OPERATING SYSTEM:
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                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                       US-10-004-219B-10 (1-445) x US-08-694-915-1 (1-1433)
                                                                                                                                                                                                                                           Indels:
                                                                                                                                                                                           1046.50
65.70%
46.77%
43.64%
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: CDNA
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
                                                                                                                                                             Alignment Scores
                                                                                                                            US-08-694-915-1
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1180 GCAGTCAAGAGAAGCCTT--------GGCTCCCTGTGAAGGATTAACTTA 1221
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APPLICANT: Rirkpatrick, Robert
APPLICANT: Rosenberg, Martin
TITLE OF INVENTION: HUMAN CARTILEGE GP39-LIKE GENE
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Smithkline Beecham Corporation
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CITY: King of Prussia
STATE: PA
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/694,915
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ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY 13, 84
REGISTRATION NUMBER: FD
REFRENCE/DOCKET NUMBER: FD 3665
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MEDIUM TYPE: Floppy disk
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                                                                                                                                                                                            Gaps:
                                          INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1526 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: cDNA
HYPOTHETICAL: NO
ANTI-SENSE: NO
LELEFAX: 610-270-5219
TELEFAX: 610-270-5090
TELEX:
                                                                                                                                                                                                                                                  1046.50
65.70%
46.77%
43.64%
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Best Local Similarity:
Query Match:
                                                                                                                                                                       FRAGMENT TYPE:
ORIGINAL SOURCE
                                                                                                                                                                                                                            Alignment Scores:
Pred. No.:
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1273 GCAGTCAAGAGAAGCCTT-------GGCTCCCTGTGAAGGATTAACTTA 1314
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                                 PhelysThriysValSerTyrLeulysGlnLysGlyLeuGlyGlyAlaMetValTrpAla 338
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GENERAL INFORMATION:
APPLICANT: THE RECENTS OF THE UNIVERSITY OF CALIFORNIA
TITLE OF INVENTION: DEGRADATION OF MANMALIAN CONNECTIVE TISSUE MATRICES
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
CARRESPONDENCE ADDRESS:
STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR
CITY: LOS ANGELES
STATE: CALIFORNIA
COUNTRY: USA
ZIP: 90067
240 IleLeuGlyMetProThrTyrGlyArgSerPheThrLeuAlaSerSerSerAspThrArg 259
                                                                                                        ValGlyAlaProAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMet 279
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/07754
FILING DATE: 08-JUL-1994
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Search completed: June 30, 2003, 01:11:43
Job time : 89.5244 secs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIleLeu 241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         318 CTCAACAACACGCAACCTGAAGACTCTCTTGTCTGTCGGAGGATGGAACTTTGGG
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Mismatches:
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Matches:
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                                                                                             TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: YKL-40
TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                       8.69e-97
1030.00
67.33%
50.37%
             TELEPACNE: 619/455-5100
TELEFAX: 619/455-5110
INFORMATION FOR SEQ ID NO: 4.
SEQUENCE CHARACTERISTICS:
LENGTH: 1681 base pairs
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135..1681
                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                ; LOCATION:
PCT-US94-07754-4
                                                                                                                                                                                                                NAME/KEY:
                                                                                                                                                                                                                                                                                  Alignment Scores:
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839
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValProTyrIlePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLys 320
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                                                                                                                                                                  780 ACTGACTATGCTGTGGGGTACATGTTGAGGCTGGGGGGCTCCTGCCAGTAAGCTGGTGATG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaproAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMetLeuAla
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Seguence:

Run on:

Searched:

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Sequence 646, App
Sequence 678, App
Sequence 3115, Ap
Sequence 1882, Ap
Sequence 1882, Ap
Sequence 1210, A
Sequence 1189, Ap
Sequence 10172, A
Sequence 10172, A
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Sequence 1183, Ap
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Sequence 1183, Ap
Sequence 1183, Ap
Sequence 1183, Ap
Sequence 1183, Ap
Sequence 255, App
Sequence 256, App
Sequence 256, App
Sequence 256, App
Sequence 256, App
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Publication No. USZ0030087414A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Macrosyme
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: Which mucus is involved or infection diseases in
FILE REPERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                        Sequence 17, Appl
Sequence 19, Appl
Sequence 14, Appl
Sequence 16, Appl
Sequence 1684, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Description of Artificial Sequence: human AMCase OTHER INFORMATION: cDNA sequence and deduced amino acid sequence
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                                                                                   Sequence
Sequence
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US-09-960-352-1882
US-09-960-352-12100
US-09-960-352-1189
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US-09-960-352-10172
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US-09-960-352-256
US-09-960-352-265
US-09-960-352-4536
                                              US-10-218-743-40
US-10-218-743-42
US-10-218-743-39
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US-10-218-743-14
US-10-218-743-16
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US-09-960-352-678
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LENGTH: 1625
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Command line parameters:
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-LCOPCL=0 -LCOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=46 -DOCALIGN=200 -THR SCORE=pct -THR MATRIX=100
-THR MIN-0 -ALIGN=15 -MODE=LCOLL -OUTFWTP=pct -NORM=ext -HEAPSIZE=500 -MINLEN-0
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-NCPG=6 -LCOPU=3 -NO MAAP -LARGEQUERY -NGG_SCORES=0 -WAIT -DSPENCGR=100
-LONGLOG -DEY TIMEOTT=12 -WARN TIMEOTT=30 -THREADS=1 -XGAPEXT=0.5
-FGAPOP=6 -FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOPE6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence 44, Appl
Sequence 4, Appli
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Sequence 3, Appli
Sequence 44, Appli
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4070.941 Million cell updates/sec
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1: /cgn2 6/ptodata1/pubpna/USO7_PUBCOMB.seq: *

2: /cgn2 6/ptodata1/pubpna/PCT_NEW_PUB.seq: *

3: /cgn2 6/ptodata1/pubpna/USO6_REM_PUB.seq: *

4: /cgn2 6/ptodata1/pubpna/USO6_PUBCOMB.seq: *

5: /cgn2 6/ptodata1/pubpna/USO8_PUBCOMB.seq: *

6: /cgn2 6/ptodata1/pubpna/USO8_NEW_PUB.seq: *

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10: /cgn2 6/ptodata1/pubpna/USO9_PUBCOMB.seq: *

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13: /cgn2 6/ptodata1/pubpna/USO9_PUBCOMB.seq: *

13: /cgn2 6/ptodata1/pubpna/USO0_PUBCOMB.seq: *

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14: /cgn2 6/ptodata1/pubpna/USO0_PUBCOMB.seq: *
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                               OM protein - nucleic search, using frame_plus_p2n model
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Ygapop 10.0 , Ygapext
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Matches:
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Best Local Similarity:
Query Match:
NAME/KEY: CDS
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    Sequence 3, Application US/10004219B
    Sequence 3, Application No.
    Publication No.
    Publication No.
    Sequence 3. Application No.
    Sequence 3. Application No.
    Seneral information No.
    APPLICANT: Macrozyme
    APPLICANT: Macrozyme
    APPLICANT: Macrosyme
    APPLICANT: Acts, Johannes M.F.G.
    APPLICANT: Acts, Johannes M.F.G.
    TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
    TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
    TITLE OF INVENTION: Which mucus is involved or infection diseases
    FILE REFERENCE: 2133-513-608
    CURRENT APPLICATION NUMBER: US/10/004,219B
    NUMBER OF SEQ ID NOS: 14
    SOFTWARE: PatentIn Ver. 2.1
    SOFTWARE: PatentIn Ver. 2.1
    SEQ ID NO 3.
    FALCOMET
    SEQ ID NO 3.
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                                                    AspleuAspAspPheAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThr
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APPLICANT: Gordon B. MILLS
APPLICANT: Robert C. BAST, Jr.
APPLICANT: Robert C. BAST, Jr.
APPLICANT: Robert C. BAST, Jr.
APPLICANT: Robert C. BAST, Jr.
APPLICANT: Robert C. BAST, Jr.
APPLICANT: Robert C. BAST, Jr.
APPLICANT: Karen LU
APPLICANT: Amen GLATT
TITLE OF INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
TITLE OF INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
TITLE OF INVENTION: MARIER: US/10/097,340
CURRENT APPLICATION NUMBER: 60/276,025
PRIOR FILING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: 60/324,967
PRIOR FILING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-26
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                 361 ArgGlnGluLeuSerLeuProTyrLeuProSerGlyThrProGluLeuGluValProLy8 380
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 44, Application US/10097340 Publication No. US20030087250A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: John MONAHAN
APPLICANT: MATJULA GANNAVARAPU
APPLICANT: Schastian HORRSCH
APPLICANT: Shubhangi KAMATKAR
APPLICANT: Steve G. KOVATS
APPLICANT: Rachel E. MEYERS
APPLICANT: Rachel E. MEYERS
APPLICANT: Michael MORRISEY
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                                                                                                                                              GCTCCTTTCACTACCATGGTTTCCACTTCTCAGAACCGCCAGACCTTCATTACCTCAGTC 369
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                                                                               70 CTGATATGCTATTTCACCAACTGGGCCCAGTATCGGCCAGGTCTGGGGAGCTTCAAGCCT 129
                                                                                                                    23 LysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThrAsn 42
                                      LeuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPheLeuPro 22
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       LeuAspAspPheAlaGlyPheSerCysAsnGlnGly---ArgTyrProleulleGlnThr 359
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                                           1192 CTGGATGACTTCCAGGGCTCCTTCTGCGGCCAGGATCTGCGCTTCCCTCTCACCAATGCC
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APPLICANT: DOHANSEN, JULIA S.
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR TITLE OF INVENTION: MAMMALIAN CONNECTIVE TISSUE MATTITLE OF INVENTION: MAMMALIAN CONNECTIVE TISSUE MATFILE REFERENCE: 407T-895411US
CURRENT APPLICATION NUMBER: US/09/215,077A
CURRENT APPLICATION NUMBER: 08/581,527
PRIOR APPLICATION NUMBER: 08/681,527
PRIOR PILING DATE: 1996-04-17
PRIOR FILING DATE: 1993-07-09
NUMBER OF SEQ ID NOS: 4
SOFTWARE: PATENTIN VET: 2.0
SEQ ID NO 4
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Matches:
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Sequence 4, Application US/09262213A Patent No. US20020090658A1 GENERAL INFORMATION:

-09-262-213A-4

APPLICANT: PRICE, PAUL APPLICANT: JOHANSEN, JULIA

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APPLICANT: Clark, Hilary
APPLICANT: Fechtel, Kim
APPLICANT: Apostino, Michael J.
APPLICANT: Apostino, Michael J.
APPLICANT: Howes, Steven H.
APPLICANT: Resnick, Richard J.
APPLICANT: Resnick, Kamalakar
APPLICANT: Gulukota, Kamalakar
APPLICANT: Graham, James R.
ITLE OF INVENTION: POLIVUCIEOTIDES ENCODING NOVEL SECRETED PROTEINS
FILE REFERENCE: GIN 6402
CURRENT PPLICATION NUMBER: US/09/822,830A
CURRENT FILING DATE: 2001-03-29
PRIOR APPLICATION NUMBER: 60/195,604
                                     780 ACTGACTATGCTGTGGGGTACATGTTGAGGCTGGGGGCTCCTGCCAGTAAGCTGGTGATG
ValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIleLeu
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Patent No. US20020142952A1
GENERAL INFORMATION:
APPLICANT: Genetics Institute, Inc.
APPLICANT: Wong, Gordon G.
APPLICANT: Tentral, Him APPLICANT: Applicant Agostino, Michael J.
APPLICANT: Howes, Stewen H.
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SOFTWARE: PatentIn Ver. 2.0
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ORGANISM: Homo sapiens
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APPLICANT: McCall, Catherine A. APPLICANT: Hunter, Shirley Wu APPLICANT: Weber, Eric R.
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TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROT
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROT
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL.2-C.3
CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 1909-04-13
PRIOR FILING DATE: 1909-04-15
PRIOR FILING DATE: 1909-04-15
PRIOR PELICATION NUMBER: 60/098,909
PRIOR PELICATION NUMBER: 60/098,505
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1908-04-17
PRIOR FILING DATE: 1908-04-17
PRIOR FILING DATE: 1908-04-17
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PRIOR PILING DATE: 1908-04-17
PRIOR PILING DATE: 1908-04-17
PRIOR FILING DATE: 1908-04-17
PRIOR FILING DATE: 1908-04-17
PRIOR FILING DATE: 1008-06-17
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Matches:
Conservative:
Mismatches:
Indels:
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ORGANISM: Dermatophagoides farinae
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52.36%
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Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: CDS
; LOCATION: (1)
US-10-218-743-40
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1150 GGTGATGAAAAGAACTCTTACGAATGTCTTTTGGGCCCAAGTACAACCACACAACAACACCA 1209
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556 ATTGACGTAGCTTATGAGCTCAAAGAATTGAACCAATTGTTCGATTGGATGAATGTCATG
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Sequence 37, Application US/10218743
Publication No. US20030096779A1
GENERAL INFORMATION:
APPLICANT: McCall, Catherine A.
APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Stric R.
ITILE OF INVENTION: AND USES THEREOF
FILE REPRENENCE: AL-2-C3
CURRENT APPLICATICATION UNMER: US/10/218,743
CURRENT FILING DATE: 2002-08-13
                                                                                                                                                                                                                                                                                                         GCTIGGAGCATCGAAGATCGAAGCAAAGTCAAACTIGGCGATCCGGCCAAAGGCATGTCT 616
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           190 AlaTyrAspPheHisGlySerTrpGluLysValThrGlyHisAsnSerProLeuTyrLys 209
                                                                                                ArgGlnGluGluSerGlyAlaAlaAlaSer---LeuAsnValAspAlaAlaValGlnGln 228
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|GACCCGATGAAACGGATGAATTGCACTTACTTCAATGTCAACTACACCATGCACTAT 736
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                                                     855 ACTTATGATTACCATGGCGGATGGGAAAATGTTTTCGGCCATAATGCTCCGTTGTATAAA
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TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS TITLE OF INVENTION: AND USES THEREOF FILE REFERENCE: AL-2-C3
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                                                                CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 2002-08-13
PRIOR APPLICATION NUMBER: US/09/292,225
PRIOR PLILING DATE: 1999-04-15
PRIOR PLILING DATE: 1999-04-15
PRIOR PLILING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/098,595
PRIOR PLILING DATE: 1998-05-13
PRIOR PLILING DATE: 1998-04-17
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   APPLICATION NUMBER: US/09/292,225
PRIOR APPLICATION NUMBER: US/09/292,225
PRIOR FILING DATE: 1999-04-15
PRIOR APPLICATION NUMBER: 60/098,909
PRIOR FILING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/085,295
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR FILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR FILING DATE: 1998-04-17
                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Dermatophagoides farinae
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SEQ ID NO 37
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673 ACTTATGATTACCATGGCGGATGGGAAATGTTTTCGGCCATAATGCTCCGTTGTATAAA 732
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733 GACCCGATGAAAGGATGAATTGCACACTTACTTCAATGTCAACTACACCATGCACTAT
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APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUC
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
CURRENT APPLICATION NUMBER: US/10/218, 743
CURRENT PILING DATE: 2002-08-13
PRIOR FILING DATE: 1999-04-15
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          PRIOR FILING DATE: 1998-09-02
PRIOR PELING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/098, 295
PRIOR APPLICATION NUMBER: 60/098, 565
PRIOR FILING DATE: 1998-04-17
PRIOR PELING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
SOFTWARE: PATENTIN VET: 2.0
SEQ ID NO 39
APPLICATION NUMBER: 60/098,909
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US-10-218-743-39
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                                103 AlaAspGlyLeuTyrProAsnProArgGluArgSerSerPheTyrSerCys-----
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APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Eric R.
ITILE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROT
ITILE OF INVENTION: AND USES THEREOF
ITILE OF INVENTION: AND USES THEREOF
ITILE OF INVENTION: WHORES: US/10/218,743
CURRENT APPLICATION NUMBER: US/99/292,225
PRIOR FILING DATE: 1999-04-15
PRIOR PELICATION NUMBER: G0/098,909
PRIOR PELICATION NUMBER: 60/098,909
PRIOR PILING DATE: 1998-09-02
PRIOR APPLICATION NUMBER: 60/098,295
PRIOR PILING DATE: 1998-09-13
PRIOR PLING DATE: 1998-05-13
PRIOR PLING DATE: 1998-05-13
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Publication No. US20030096779A1
GENERAL INFORMATION:
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Mismatches:
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                                                                                                                                                                                                                         Length:
Matches:
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 PRIOR FILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR FILING DATE: 1998-04-17
WUMBER OF SEQ ID NOS: 49
SOFTWARE: Patentin Ver. 2.0
                                                                                                     TYPE: DNA
ORGANISM: Dermatophagoides farinae
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52.36%
33.26%
31.78%
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Best Local Similarity:
                                                                                                                                             ; NAME/KEY: CDS
; LOCATION: (14)
US-10-218-743-34
                                                                                                                                                                                                           Alignment Scores:
                                                                        SEQ ID NO 34
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Sequence 36, Application US/10218743

Sequence 36, Application US/10218743

Publication No. US20030096779A1

GENERAL INFORMATION:

APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Honder, Eric R

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: AND USES THERBOF
FILLE REFERENCE: AL.2-C3

CURRENT APPLICATION NUMBER: US/10/218,743

FRIOR PILLING DATE: 1999-04-15

PRIOR FILLING DATE: 1999-04-15

PRIOR FILLING DATE: 1998-05-03

PRIOR FILLING DATE: 1998-05-03

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PRIOR FILLING DATE: 1998-04-17

PRIOR FILLING DATE: 1998-04-17

PRIOR FILLING DATE: 1998-04-17

PRIOR FILLING DATE: 1998-04-17

PRIOR FILLING DATE: 1998-04-17

PRIOR FILLING DATE: 1998-04-17

PRIOR PLILING DATE: 1998-04-17

PRIOR PLILING DATE: 1998-04-17
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                                                                                                                                                     269 ThrProGlyProPheThrLysGluGlyGlyMetLeuAlaTyrTyrGluValCysSerTrp 288
SerPheThrLeuAlaSerSerSerAspThrArgValGlyAlaProAlaThrGlySerGly
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                                                                        866 GCTTGGAGCATCGAAGATCGAAGCAAAGTCAAACTTGGCGATCCGGCCAAAGGCATGTCT
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JERUSALL INFORMATION:

JERUSALL INFORMATION:

APPLICANT: WADEA, Exically, Catherine A.

APPLICANT: WADEA, Exically, Catherine A.

APPLICANT: WADEA, Exically, Catherine A.

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: AND USES THEREOF

FILE REFERENCE: 2002-08-13

CURRENT FILING DATE: 1990-04-13

PRIOR PELLORATION NUMBER: 60/098,909

PRIOR PELLORATION NUMBER: 60/098,909

PRIOR PELLING DATE: 1990-09-02

PRIOR PELLING DATE: 1990-05-03

PRIOR PELLING DATE: 1990-05-13

PRIOR PELLING DATE: 1990-05-13

PRIOR PELLING DATE: 1990-04-17

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PRIOR PELLING DATE: 1990-05-13

PRIOR PELLING DATE: 1990-04-17

PRIOR PELLING DATE: 1990-04-17

NUMBER OF SEQ ID NOS: 49

SEQ ID NO 20

LENGTH: 1608
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                                     269 ThrProGlyProPheThrLysGluGlyGlyMetLeuAlaTyrTyrGluValCysSerTrp 288
                                                                                                              189 LysGlyAlaThrLysGlnArgileGln---AspGln-----LysValProTyrIlePhe 305
                                                                                                                                         TICCAGAAAGAAGAAGACATATTCAATACGATGAATATTACAATGCTCCATACGGATAT 577
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; Sequence 20, Application US/10218743
; Publication No. US20030096779A1
; GENERAL INFORMATION:
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.095 GATAAACAAAACTATTTAACATTAGAGAACTTAAAGAGGCATTTGAACCTTTCGGC 1036
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                                                                                                                                                                                                                                                                                                                                                             2 LysLeuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPheLeu 21
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Matches:
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                                                                                                                Dermatophagoides farinae
                                                                                                                                                                                  8.83e-74
762.00
52.36%
33.26%
31.78%
 PRIOR FILING DATE: 1998-04-17
                 NUMBER OF SEQ ID NOS: 49
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 36
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269 ThrProGlvProPheThrLvsGluGlvGlvMetLeuAlaTvrTvrGluValCvsSerTrp 288
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                                                                                                                                                                                                                                                                                                                                                                                                                                                160 GAATACAAATACACAATTCAAGTTTTCGATCCTTACCAAGATGATAACCATAACTCATGG 219
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        337 AATCCAACATATGTCAACAATTCATACAATCAGTTTTGGACTTTTTGCAAGAATACAAG 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AsplysGluArgPheThrThrLeuValGlnAspLeuAlaAsnAlaPheGlnGlnGluAla 149
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CGACCAGATGAAACTGATGGGACTTGCACTTCAATGTCAACTACACCATGCACTAT 735
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                                                                                                                                                                                                                                                                                                   43 AGAATTGTTTGTTTGTTGGAACATGGTCCGTATATCATAAGTTGATCCA---TACACT 99
                                                                                                                                                                                                                                                                                                                                                  ProLysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThr 41
                                                                                                                                                                                                                                                                                  LysleuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                 42 AsnHisGlnLeuSerThr-----ThrGluTrp
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TATTTGAACAATGGTGCCACCAGAGACAAATTGGTAATGGGTGTTCCATTCTATGGCCGT
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                  ORGANISM: Dermatophagoides farinae
                                                                                                                                3.76e-71
738.00
54.71%
34.98%
                                ; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1)..(1608)
US-10-218-743-20
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	Qy 269	ThrProGlyProPheThrLysGluGlyGlyMetLeuAlaTyrTyrGluValCySerTrp 288
	Db 856	
_	Qy 289	LysGlyAlaThrLysGlnArglleGlnAspGlnLysValProTyrllePhe 305
	Db 916	TTTCAAAAAGAAGGATGGCATATCCAATACGATGAATATTACAATGCTCCATATGGTT
	306	
<u></u>	916 dd	
<u>.</u>	Qy 326	
<u></u>	Db 1036	CTGAAAGAATTAGGCGTTTCTGGTGTCATGGTTTGGTCATTGGAAAATGATGATTTCAAA 1095
<u> </u>	Oy 346	GIV346
Ц	Db 1096	GGTCACTGCGGACCGAAAAATCCATTGTTGAACAAAGTTCATAATATGATTAATGGCGAT 1155
	Oy 347	
Ц	Db 1156	GAAAAGAACTCTTTCGAATGCATTTTGGGTCCAAGTACAACGACGACCAACTCCAACGACG
	Qy 353	gTyrProleuIleGlnThrLeuArgGlnGluLeuSerLeuProTyrLeuProSerGlyTh 373
ш	Db 1216	Acacccarcaccacarcarcaccarcarcacarcaccarcar
<u>.</u>	Qy 373	rProGluLeuGluValProLysProGlyGlnProSerGluProGluHisGlyProSe 392
	Db 1275	
<u> </u>	Oy 392	rProGlyGlnAspThr 397
-	Db 1335	TCCCACCACACACA 1350
	MCS-10-218-743-22/C Sequence 22, Applica Publication No. US20 GENERAL INFORMATION: APPLICANT: Muter, APPLICANT: Hunter, TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: FILE REFERENCE: ALCURRENT APPLICATION OF THE NORMATION OF THE	10-218-743-22/c  40-218-743-22/c  40-218-743-22/c  40-218-22, Application US/10218743  40-21-22, Application US/10218743  40-21-22, Application US/203009677941  40-21-22, Application US/203009677941  40-21-22, Application US/203009677941  40-21-22, Application US/2020-20-23  40-21-22, Application UNUBER: US/20218, 743  40-21-22, UNUBERION NUMBER: US/20218, 743  40-21-22-23, US/20218, 743  40-21-23, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/20218, US/2
	걸	: 3 76e-71 Length.
	Score: Score: Percent Similarity: Best Local Similarity: Query Match:	738.00 54.71\$ 34.98\$

DB:	9 Gaps: 11	:::
3	1	Qy 346 GIY 346
අධ	1566 AGAATTGTTGTTGGAACATGGTCGTATATCATAAGTTGATCCTACACT 1510	513 GGTCACTGCGGACCGAAAAATCCATTGTTGAACAAAGTTCATAATATGATTAATGGCGAT
ò :	22 ProLysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThr 41 :::   :::	QY 347PIRESERCY8
8 8	42 AshtisGlnLeuSerThrThrdluTrp	353 gTyrProLeulleGlnThrLeuhrgGlnGluLeuSerLeubroTyrLeuProSerGlyTh
셤	 1449 GAATACAAATTCCAATTCAAGTTTTCGATCCTTACCAAGATGATAACCATAACTCATGG 1390	393 ACACCCACAACCCCGACTACAACGCCAACAACCTCCTTCTCCCCACC-ACCCGACAACAAC
දු පු	51 ABnAspGluThrLeuTyrGlnGluPheAsnGlyLeuLysLysMetAsnProLysLeuLys 70 ::::::	
දු පු	71 ThrLeuLeuAlaileGlyGlyTrpAsnPheGlyThrGlnLysPheThrAspMetValAla 90	Oy 392 rProGlyGlnAspThr 397
දු පු	91 ThralaasnasnargdinThrPheValasnSeralaileargPheLeuargLysTyrSer 110 	Search completed: June 30, 2003, 03:58:16 Job time : 186.267 secs
که م <u>م</u>	111 PheaspGlyLeuAspLeuAspTrpGluTyrProGlySerGlnGlySerProAlaVal 129 	
yo da	130 AspLysGluArgPheThrThrLeuValGlnAspLeuAlaAsnAlaPheGlnGlnGluAla 149        :: ::       :::    1152 GATAAACAAACTATTTGGCTTTGGTTAGAGAACTTAAAGACGCTTTTGAACCTCATGGC 1093	
& q	150 GlnThrSerGlyLyBGluArgLeuLeuLeuSerAlaAlaValProAlaGlyGlnThrTyr 169 	
ò q	170 ValaspalaGlyTyrGluValaspLysIleAlaGlnAsnLeuAspPheValasnLeuMet 189 :::	
& g	190 AlaTyrAspPheHisGlySerTrpGluLysValThrGlyHisAsnSerProLeuTyrLys 209 	
è 8	210 ArgGinGluGluSerGlyAlaAlaAlaSerLeuAsnValAspAlaAlaValGlnGln 228     :::   ::: 933 CGACCAGATGAACTGATGCACACTTACTTCAATGTCAACTACACCATGCACTAT 874	
<i>장</i> 임	229 TrpLeuGlnLysGlyThrProAlaSerLysLeulleLeuGlyMetProThrTyrGlyArg 248 :::	
\$ a	249 SerPheThreuAlaSerSerSerAspThrArgValGlyAlaProAlaThrGlySerGly 268 ::::::::::	
<b>중</b> 원	269 ThrProGlyProPheThrLysGluGlyGlyMetLeuAlaTyrTyrGluValCysSerTrp 288	
දු පු	289 LysGlyAlaThrLysGlnArglleGlnAspGlnLysValProTyrIlePhe 305 :::	
දු පු	306 ArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLysThrLysValSerTyr 325	
È	326 LeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAspLeuAspAspPheAla 345	

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orotein - nucleic search, using frame_plus_p2n model
Run on: June 29, 2003, 21:10:28 ; Search time 1466.66 Seconds (without alignments) 4913.891 Million cell updates/sec
Title: US-10-004-219B-10 Perfect score: 2398 Sequence: 1 AKL/CYFTNWAQYRQGBARFQQSCPTGLVFSNSCKCCTWN 445
Scoring table: BLOSUM62  Xgapop 10.0 , Ygapext 0.5  Ygapop 10.0 , Ygapext 7.0  Fgapop 6.0 , Fgapext 7.0  Delop 6.0 , Delext 7.0
Searched: 16154066 seqs, 8097743376 residues
Total number of hits satisfying chosen parameters: 32308132
Minimum DB seq léngth: 0 Maximum DB seq length: 200000000
Post-processing: Minimum Match 10% Maximum Match 100% Listing first 45 summaries
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41 ThrAsnHisGlnLeuSerThrThrGluTrpAsnAspGluThrLeuTyrGlnGluPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 413 GACAACCATCAGCTCAGCACTGTGGAGCACAATGACGAACTTCTCTACCAGGAGCTGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 GlyLeuLysLysMetAsnProLysLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AlaLysLeuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21 LeuProLysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMet
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Matches:
Conservative:
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clone="2300002119"
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1581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="putative"
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L. Nature 409 (6821), 685-690 (2001)
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                                                                                                                                                                        Loh, M., Konno, H., Okazaki, Y., Muramatsu, M., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shibata,K., Itoh,M., Aizawa,K., Nagaoka,S., Sasaki,N., Carninci,P., Konno,H., Akiyama,J., Nishi,K., Kitsunai,T., Tashiro,H., Itoh,M., Suni,N., Ishii,Y., Nakamura,S., Hazama,M., Nishine,T., Harada,A., Yamamoto,R., Matsumoto,H., Sakaguchi,S., Ikegami,T., Kashiwagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,B., Watahiki,M., Yonaeda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and Hayashizaki,Y. RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
Submitted (10-JUL-2000) Yoshihide Hayashizaki, The Institute of
carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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Adachi,J., Aizawa.K.
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TITLE JOURNAL MEDLINE PUBMED REFERENCE AUTHORS

TITLE JOURNAL

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326 GCTCCTTTCACTACCATGGTTTCCACATCTCAGAACCTCCAGACCTTCATTACCTCAGTC 385
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                                                                                                                                                                                                                                                        146 GATGACATTAACCCCCTGCCTGTACTCACCTGATCTATGCCTTTGCTGGGATGCAGAAC
                                                                                                                                                                                                                                                                                                                             206 AATGAGATCACCATCATAGAATGAATGATGTTACTCTCTATAAAAGCTTTCAATGACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleArgPheLeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyrProGly
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                                                                                                                                                                                       86 crgarargerarrrcaccaacregecccagrarcegecagereregegagerreageer
                                                                                                                                                                                                                            23 LysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThrAsn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlnGlySerProAlaValAspLysGluArgPheThrThrLeuValGlnAspLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  143 AsnAlaPheGlnGlnGluAlaGlnThrSerGlyLysGluArgLeuLeuLeuSerAlaAla
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                                                                                                                                                   3 LeuValCysTyrPheThrAsnTrpAlaGlnTyrArgGlnGlyGluAlaArgPheLeuPro
                                                                                                                                                                                                                                                                                                                                                                                LysLysMetAsnProLysLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPheGlyThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuAspPheValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLysValThrGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetProThrTyrGlyArgSerPheThrLeuAlaSerSerSerAspThrArgValGlyAla
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236
71
128
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3
             Conservative:
Mismatches:
Indels:
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EMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELSKYLDFIHVMTYDLHGSW
BGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVGFPEYGHTFILRNP
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GYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDPTGSFCDQGKFPLTSTLNKALGISTE
                                                                                                                                                                                                                                                              Submitted (10-ULL-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Wanagawa 230-0045, Japan (E-mail:genome-resegnsc.riken.go.jp, URL:http://genome.gsc.riken.go.jp, Fax:81-45-503-9216)
Please visit our web site (http://genome.gsc.riken.go.jp)) for
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'clone_Tib="RIKEN full-length enriched mouse cDNA library'
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data source:MGD, source key:MGI:1932052, evidence:ISS
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db_xref="MGD) MGI:1B92888"

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'db xref="GI:12842942"
'db_xref="MGD:MGI:1932052"
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Adachi, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Azawa, T., Bano, H., Brownstein, M., Bult, C., Arakawa, T., Bandarelli, R., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Hume, D., Imotani, K., Ishii, Y., Itoh, M., Izawa, M., Koya, S., Kato, H., Kawai, J., Kojima, Y., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, Saito, H., Saito, R., Saho, H., Sasaki, D., Schriml, L., Shibata, K., Shibata, Y., Sano, H., Sasaki, D., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., Tanaka, T., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshida, K., Yoshino, M., Muramatsu, M. and
                         Riedchmann, W. Gaagterland, T. Giss, C. King, B., Kochiwa, H., Kuchl, P., Lewis, S., Matsuo, Y., Nikaido, I., Pesole, G., Quackenbush, J., Schrinh, L.M., Staubli, P., Suzuki, R., Tomita, M., Wagner, L., Washio, T., Sakai, K., Okido, T., Furuno, M., Aono, H., Baldarelli, R., Barsh, G., Blake, J., Boffelli, D., Bojunga, N., Carninci, P., de Bonaldo, M.F., Brownstein, M.J., Bult, C., Fletcher, C., Fujita, M., Gariboldi, M., Gustincich, S., Hill, D., Hofmann, M., Hume, D.A., Kaniya, M., Lee, N.H., Lyons, P., Kaniya, M., Lee, N.H., Lyons, P., Nordone, P., Ring, B., Ring, B., Kaniya, M., Lee, N.H., Samoto, N., Sasaki, H., Sato, K., Schonbach, C., Seya, T., Shakata, Y., Storch, K.F., Suzuki, H., Wynshaw-Boris, A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S. and Hayashizaki, Y. Runctional annotation of a full-length mouse cDNA collection
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/clone_lib="RIKEN full-length enriched mouse cDNA library"
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Submitted (10-JUL-2000) Yoshihide Hayashizaki, The Institute of Submitted (10-JUL-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN) Laboratory for Genome Exploration Research Group, RIKEN Gemomic Sciences Center (SSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-resegsc.riken.go.jp, URL:http://genome.gsc.riken.go.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)
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   Matsuda, H., Ashburner, M., Batalov, S., Casavant, T.
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| db xref="MGD:MGI:1894239"
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| clone="2210020N23"
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/organism="Mus musculus"

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Mus musculus adult male stomach CDNA, RIKEN full-length enriched library, clone:2210020N23:chitinase, acidic, full insert sequence.
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1046 GTTAAGGCTCAGTGGCTTAAGCAGAACAATTTTGGAGGTGCCATGATCATGAC 1105
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Arakawa,T., Hara,A., Fukunishi,Y., Konno,H., Adachi,J., Fukuda,S.,
Aizawa,K., Izawa,M., Nishi,K., Kiyosawa,H., Kondo,S., Yamanaka,I.,
Saito,T., Okazaki,Y., Gojobori,T., Bono,H., Kasukawa,T., Saito,R.,
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HTC; CAP trapper.
Mus musculus (strain:C57BL/6J) adult male stomach cDNA to mRNA,
clone.lib:RIKEN full-length enriched mouse cDNA library
clone:2210020N23.
Mus musculus
Eukäryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
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                                                                                                           LeuAspAspPheAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThrLeu
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High-efficiency full-length cDNA cloning
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Mus musculus adult male stomach CDNA, RIKEN full-length enriched library, clone:2200008L17:chitinase, acidic, full insert sequence. AK008650
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746 GATTATGTCATGAACTATTGGAAGAACAATGGAGCCCCCAGCTGAGAAGCTCATTGTTGGA
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                                                   806 TTCCCAGAGTATGGACACGCCTTCATCCTGAGAAACCCCTCTGATAATGGAATTGGTGCC
                                                                                                                                                                                            926 TATGAGATTTGCACCTTTCTGAGAAGTGGAGCCACTGAGGTCTGGGATGCCTCCCAATAA
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High-efficiency full-length cDNA cloning
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HTC; CAP trapper.
Mus musculus (strain:C57BL/6J) adult iclone lib:RIKEN full-length enriched clone:2200008L17.
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PUBMED REFERENCE AUTHORS

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CTGATATGCTATTTCACCAACTGGGCCCAGTATCGGCCAGGTCTGGGGAGCTTCAAGCCT 145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23 LysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThrAsn 42
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with XhoI and SstI. Cloning sites, 5' end: XhoI; 3' end: SstI
Host: SOLR.
                                                                                                                             /organism="Mus musculus"
/strain="C57BL/6J"
/db_xref="FANTOM DB:2200008L17"
/db_xref="MGD:MG:1894268"
/db_xref="taxon:10090"
/clone="2200008L17"
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Matches:
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Best Local Similarity:
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Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in RIKEN.
Division of Experimental Animal Research in Riken contributed to
prepare mouse tissues. First strand cDNA was primed with a primer
[5. GAGAGAGAGATCCAAGAGCTCTTTTTTTTTTTTTTVN 3.], cDNA was
prepared by using trehalose thermo-activated reverse transcriptase
and subsequently enriched for full-length by cap-trapper. Second
strand cDNA was prepared with the primer adapter of sequence [5,
GAGAGAGAGTAATTAAATTAAATTAATCCCCCCCCCCC 3.]. cDNA was cleaved
                                                   Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watchiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKBN integrated sequence analysis (RISA) system-138-format Genome Res. 10 (11), 1757-1771 (2000)
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further details.
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COMMENT

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AK007573 1530 bp mRNA linear HTC 19-JAN-2002 Mus musculus 10 day old male pancreas cDNA, RIKEN full-length enriched library, clone:1810021D23:chitinase, acidic, full insert
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GA-AATAGTCCTCTTTACAAATACCCTACTGAGACTGGTAGCAATGCCTACCTCAATGTG
                             ProAlaThrGlySerGlyThrProGlyProPheThrLysGluGlyGlyMetLeuAlaTyr
                                                                                                                                                                          TyrGluValCysSerTrp----LysGlyAlaThrLysGlnArgIleGlnAspGlnLys
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                                                            GATTATGTCATGAACTATTGGAAGAACAATGGAGCCCCAGCTGAGAAGCTCATTGTTGGA
                                                                                          243 MetProThrTyrGlyArgSerPheThrLeuAlaSerSerAspThrArgValGlyAla
                                                                                                                         rccga-gagrargcacacaccrrrcarccrcagaaaccccrcrcaraarggaarrccrccc
                                                                                                                                                                                                                                                                                                                                               ThriysValSerTyrLeuLysGlnLysGlyLeuGlyGlyAlaMetValTrpAlaLeuAsp
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HTC; CAP trapper.
Mus musculus (strain;C57BL/6J) 10 day old male pancreas CDNA t
mRNA, clone lib:RIKEN full-length enriched mouse CDNA library
clone:1810021D23.
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Kawai, J., Shinagawa, A., Shibata, K., Yoshino, M., Itoh, M., Ishii, Y., Arakawa, T., Hara, A., Fukunishi, Y., Konno, H., Adachi, J., Fukuda, S., Arakawa, T., Hara, A., Fukunishi, Y., Kiyosawa, H., Kondo, S., Yamanaka, I., Salzawa, K., Izawa, M., Nishi, K., Kiyosawa, H., Kondo, S., Yamanaka, I., Salto, T., Okazaki, Y., Gojobori, T., Bono, H., Kasukawa, T., Salto, R., Kadota, K., Matsuda, H., Ashburner, M., Batalov, S., Casavant, T., Kuchl, P., Lewis, S., Matsuo, Y., Nikaido, I., Pesole, G., Quackenbush, J., Schrimli, L.M., Stanil, L.M., Stanil, L.M., Stanil, L.M., Stanil, L.M., Stanil, R., Stanik, R., Devole, G., Wagner, L., Washio, T., Sakai, K., Okido, T., Furuno, M., Aono, H., Baldarelli, R., Barsh, G., Blake, J., Bofundi, M., Bollinga, N., Carninci, P., de Bonaldo, M.F., Brownstein, M.J., Bult, C., Fletcher, C., Fujita, M., Gariboldi, M., Gustincich, S., Hill, D., Marchionni, L., Mashima, J., Mazzarelli, J., Mombaerts, P., Nordone, P., Ring, B., Ringwald, M., Rodriguez, I., Sakamoto, N., Sasaki, H., Satok, K., Schonbach, C., Seya, T., Shibata, Y., Storch, K. P., Suzuki, H., Toyo-oka, K., Wang, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S. and Hayashizaki, Y., Sakahizaki, Y., Kawaji, H., Lowe, M., Land, M., Matsarella, M., Rodriguez, C., Wilhing, L., Winshilla, M., Waltz, C., Wilhata, Y., Kawaji, H., Kohtsuki, S. Band, Hayashizaki, Y., Kawaji, H., Lowe, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchiona, M., Marchi

Functional annotation of a full-length mouse cDNA collection Nature 409 (6821), 685-690 (2001)

TITLE . JOURNAL MEDLINE

Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kiteunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamotco, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Marsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. sequencing pipeline with 344 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)

1076861

PUBMED REFERENCE AUTHORS

JOURNAL MEDLINE

TITLE

Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes
Genome Res. 10 (10), 1617-1630 (2000)

MEDLINE PUBMED REFERENCE AUTHORS

JOURNAL

TITLE

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dachi, J., Alzawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Bano, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, M., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Hume, D., Imotani, K., Ishii, Y., Itch, M., Izawa, M., Koya, T., Kato, H., Kawai, J., Kojima, Y., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, J., Saito, H., Saito, H., Saito, R., Shinata, Y., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., Tanaka, T., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshida, K., Yoshino, M., Muramatsu, M. and
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Direct Submission

Submitted (10-701-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Gemomic Sciences Center (GSC), RIKEN Yokohama Institute, 1-7-22 Subhiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-resegger.riken.go.jp, URL:http://genome.gec.riken.go.jp/, Tel:81-45-503-922, Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. First strand cDNA was primed with a primer
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus

Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K.,

Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
927/923

REFERENCE AUTHORS TITLE JOURNAL MEDLINE PUBMED REFERENCE AUTHORS

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National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
                    MetProThrTyrGlyArgSerPheThrLeuAlaSerSerAspThrArgValGlyAla
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             'tissue_type="pancreas"
|clone_lib="RIKEN full-length enriched mouse cDNA library
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/db_xxef="MGD:MGI:1932052"
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Mismatches:
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db_xref="taxon:10090"

/clone="1810021D23"
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/organism="Mus musculus"
/strain="C57BL/6J"
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/note="chitinase, acidic
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CDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima
Bonaldo, Ph.D.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by:Incyte Genomics, Inc.

Clone distribution: NGT-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

http://mage.lln.gov

Plate: LLAM11297 row: c column: 01
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Matches:
Conservative:
Mismatches:
Indels:
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/strain="CZECH II"
                                                                                                                            High quality sequence stop: 831.
Location/Qualifiers
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 cgapbs-r@mail.nih.gov
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: NCI-CGAP clone distribution information can l

found through the I.M.A.G.E. Consortium/LLNL at:

found through the I.M.A.G.E. Consortium/LLNL at:

found through the I.M.A.G.E. Consortium/LLNL at:

Htp://image.lnll.gov

Rollinge.lnll.gov

High quality sequence start: 4

High quality sequence stop: 816.
                           332 lyGlyAlaMetVal-TrpAlaLeuAsp-LeuAspAspPhe-AlaGlyPheSerCysAsnG
                                                                                                               hrproalaSerLygLeulleLeu-GlyMetProThrTyrGlyArgSerPheThrLeuAla
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                                                                                                                                                                                                                                                                                             603 recrearcaarragaarragaarragageeeeaacaacaagageeragageeeeeaaaaaa
                                                                                                                                                                                                                                                                                                                                                                                          351 InGlyArgTyrProLeulleGlnThrLeuArgGlnGluLeuSerLeuProTyrLeuProS
erGlyAlaAlaAlaSerLeuAsnValAspAlaAlaValGlnGlnTrpLeuGlnLysGlyT
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NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
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Tissue Procurement: Gilbert Smith, Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima
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house mouse.
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1. 882
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Site_2: Not1; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.77 kb. Library constructed by Life
Technologies. Note: this is a NCI_CGAP_Library."
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B. I (bases 1 to 892)

National Institutes of Health, Mammalian Gene Collection (MGC)

L Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Consortium (LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC Clone distribution information can be found through the 1.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM13305 row: k Column: 05

High quality sequence stop: 772.
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BQ231098.1 GI:20412498
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35.82%
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NIH-MGC http://mgc.nci.nih.gov/
National institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
SerGlnGlySerProAlaValAspLysGluArgPheThrThrLeuValGlnAspLeuAla
                                                                                                               TCACGTGGGAGCCTCCTCAGGACAAGCATCTCTTCACTGTCCTGGTGAAGGAAATGCGT
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can febund through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAMN0816 row: g column: 09
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AUTHORS
TITLE
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/note="Organ: salivary gland; Vector: pCWV-SPORT6; Site 1:
/note="Organ: salivary gland; Vector: pcWV-SPORT6; Site 1:
Not!; Site 2: SalI; Cloned unidirectionally. Primer: OlTgo dT. Average insert size 1.3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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ISM Museulus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

CE 1. (bases 1 to 837)

I. (bases 1 to 837)

RS NHH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

AL Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Jeffrey B. Green, M.D.

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DNA Sequencing by: Incyte Genomics, Inc.

clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

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High quality sequence stop: 836.

ES 1. (coation/Qualifiers)
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/lab_host="DH10B (TI_oned unidirectionally. Primer: Oligo dT. Average insert size 1.3 kb. Constructed by Life
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602787570F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4913800 5',
mRNA sequence.
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                                                                                                                                                                                                                                                                    ValProAlaGlyGlnThrTyrValAspAlaGlyTyrGluValAspLysIleAlaGlnAsn 182
                                                                                                                                                                                                                                                                                                                                                                    LeuAspPheValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLysValThrGly 202
                                                                                                                                                                                                                                                                                                                                                                                               203 HisAsnSerProLeuTyrLysArgGlnGluGluSerGlyAlaAlaAlaSerLeuAsnVal 222
                                                                                                    143 AsnAlaPheGlnGlnGluAlaGlnThrSerGlyLysGluArgLeuLeuLeuSerAlaAla 162
                                                                                                                                                                                                    674 GAGAATAGTCCTCTTTACAAATACCCTACTGAGACTGGTAGCAATGCCTACCTCAATGTG 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 734 GATTATGTCATGAACTATTGGAAGAACAATGGAGCCCCAGCTGAGAAGCTCATTGTTGGA 793
/organism="Mus musculus"
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
S. NIH-MGC http://mgc.nci.nih.gov/.
NIH-MGC http://mgc.nci.nih.gov/.
NIH-MGC http://mgc.nci.nih.gov/.
Lupublished (1999)
Contact: Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CONA Library Arayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LiAM1305 row: g column: 11
High quality sequence stop: 724.
LiCation/Oualifiers
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LiCation/Oualifiers
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Liche="IRMGE:651490"
/ clone="IRMGE:651490"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        103 IleArgPheLeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyrProGly 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43 HisGlnLeuSerThrThrGluTrpAsnAspGluThrLeuTyrGlnGluPheAsnGlyLeu 62 ::::::::::||| |||||||||| ||||
                                                                              Mus musculus cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                 872 bp
AGENCOURT_7578230 NCI CGAP_Stl MiMAGE:6051490 5', mRNA.sequence.
BQ231064.1 GI:20412464
EST.
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832.00
73.38%
58.56%
34.70%
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                                                                                                                                                                                                                         house mouse
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Best Local Similarity:
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BQ231064
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/db xref="taxon:10090"
/clone="IMAGE:924897"
/clone lib="NCI CGAP_SG2"
/lab_host="DHJOB (Tl_phage-resistant)"
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/note="Organ: salivary gland; Vector: pCMV-SPORT6; Site_1:
/note="Organ: salivary gland; Dectoring pcmv-sport6; Site_1:
/note="Organ: closer organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organization organiz
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                                           Mus musculus
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mamalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 763)
NIH-MGC http://mgc.nci.nih.gov/.
NIH-MGC http://mgc.nci.nih.gov/.
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
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                                                                                                                                                                                                                           Email: cgapbs-remail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM10848 row: j column: 02
High quality sequence stop: 760.
Location/Qualifiers
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                          house mouse.
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BG872647.1 GI:14223187
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCACGTGGGAGCCCTCCTCAGGACAAGCATCTCTTCACTGTCCTGGTGAAGGAAATGCGT 491
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                                                                                                                                                                                                                                                                                                                                                             23 LysAspLeuAspProSerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATGACATTAACCCCTGCCTGTGTGTACTCACCTGATCTATGCCTTTGCTGGGATGCAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             192 AATGAGATCACCACCATAGAATGGAATGTTACTCTCTATAAAGCTTTCAATGACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252 AAAAACAGGAACAGCAAACTGAAAACCCTCCTGGCAATTGGAGGCTGGAACTTTGGAACT
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Technologies. Note: this is a NCI_CGAP Library."
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60279678F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4921890 5',
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Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
1 (bases 1 to 880)
                                                                                       SerLeuCysThrHisLeuIleTyrAlaPheAlaGlyMetThrAsnHisGlnLeuSerThr 47
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National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
                       US-10-004-219B-10 (1-445) x BG869304 (1-764)
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602788819F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4920173 5',
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143 AsnAlaPheGlnGlnGluAlaGlnThrSerGlyLysGluArgLeuLeuLeuSerAlaAla 162
                                                                                       ValProAlaGlyGlnThrTyrValAspAlaGlyTyrGluValAspLysIleAlaGlnAsn 182
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Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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Email: cgapbs-remail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAMIOSIS row: e column: 06
High quality sequence stop: 760.
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NIH-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
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71.43$
52.60$
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BM458470
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SOURCE
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AUTHORS
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JOURNAL
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/clone=linance:CGAP_SG2"
/lab_host="Diab_NCI CGAP_SG2"
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Technologies. Note: this is a NCI_CGAP_Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            127 GATGACATTAACCCCTGCCTGTGTACTCACCTGATCTATGCCTTTGCTGGGATGCAGAAC 186
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    CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can letuch through the I.M.A.G.E. Consortium/LINL at:
http://image.llnl.gov
High quality sequence srop: 845.
High quality sequence srop: 845.
lissue Procurement: Jeffrey E. Green, M.D.
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Mismatches:
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Matches:
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                                                                                                                                                        1. .880
/organism="Mus musculus"
/strain="FVB/N"
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1098 bp mRNA linear EST 05-FEB-2002
6414204 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:5497100
667 GAGAATAGTCCTCTTTACAAATACCCTACTGAGACTGGTAGCAATGCCTACCTCAATGTG 726
                                                                                                         727 GATTATGTCATGAACTATTGGAAGAACCAATGGAGCCCAGTGAAGAGGTCATTGCTGGAT 786
                                                                                                                                                                                                         AspAlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIleLeuGly 242
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="lymphoma, cell line"
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/note="Gorgan: lymph; Vector: pCWV-SPORT6; Site 1: Not1;
Site 2: Sali; Gloned unidirectionally; oligo-dT primed.
Average insert size 1.867 kb. Library enriched for full:length clones and constructed by Life Technologies.
tull:length a NIH MGC Library." 2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: Low Staudt
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM12126 row: k column: 21
High quality sequence stop: 683.
Location/Qualifiers
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                                                                                                                                                                           243 MetProThrTyrGlyArgSerPheThrLeuAlaSerSerAerApThrArgValGlyAla
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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Conservative:
Mismatches:
Indels:
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145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                343 AspPheAlaGlyPheSerCysAsnGlnGlyArgTyrProLeuIleGlnThrLeuArgGln 362
                                                                                 LeuArgLysTyrSerPheAspGlyLeuAspLeuAspTrpGluTyrProGlySerGlnGly 125
                                                                                                           226
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TyrllePheArgAspAsnGlnTrpValGlyPheAspAspValGluSerPheLysThrLys 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTTCACTGGCAAATCCTGCAACCAGGCCCTTACCCTCTTTGTCAGCAGTCAAGAAAG 882
86 ThrAspMetValAlaThrAlaAsnAsnArgGlnThrPheValAsnSerAlaIleArgPhe 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            224 AlaAlaValGlnGlnTrpLeuGlnLysGlyThrProAlaSerLysLeuIleLeuGlyMet 243
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                                                                                                                                                                                                                                              GlnGlnGluAlaGlnThrSerGlyLygGluArgLeuLeuLeuSerAlaAlaValProAla
                                                                                                                                                                                                                                                                                                                                                                                                                          186 ValAsnLeuMetAlaTyrAspPheHisGlySerTrpGluLys-----ValThrGlyHis
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467 TATGCTGTGGGGTACTGGATACATAAGGGAATGCCATCAGAGAAGGTGGTCATGGGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         644 GAGATCTGCCAGTTCCTGAAAGGAGCCAAGATCACGGGGCTCCAGGATCAGGAGCTCCC
                                                                                                                                                                SerProAlaValAspLysGluArgPheThrThrLeuValGlnAspLeuAlaAsnAlaPhe
                                                                                                                                                                                            GlyGlnThrTyrValAspAlaGlyTyrGluValAspLysIleAlaGlnAsnLeuAspPhe
                          CACCCTATGGTGGATTCTTCTACATCACGCTTGGAATTCATTAACTCCATAATCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            584 GCCTCTGGCCCTGGAGCTGCTGGACCCATCACAGAGTCTTCAGGCTTCCTGGCCTATTAT
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Search completed: June 30, 2003, 01:07:48 Job time : 1478.66 secs THIS PAGE BLANK (USPTO)

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version 5	(c) 1993 - 2003 Compugen Ltd.	
Gen	Copyright (c)	

OM protein - protein search, using sw model

June 29, 2003, 20:56:54; Search time 13.824 Seconds (without alignments) 3094.613 Million cell updates/sec Run on:

Title: Perfect score:

US-10-004-219B-10
2398
1 AKLVCYFTNWAQYRQGEARF.....QQSCPTGLVFSNSCKCCTWN 445 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283224 segs, 96134422 residues Searched:

283224 Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB Maximum DB

summaries Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 su

PIR 73:*

Database

pir1:* pir2:** pir3:**

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Description	cartilage glycopro	heparin-binding gl	oviduct-specific g	estrogen dependent	hypothetical prote	secretory protein	breast-regressing	oviductal glycopro		_	_	chitinase (EC 3.2.	chitinase (EC 3.2.			chitinase homolog		chitinase (EC 3.2.	chitinase A [impor	=		chitinase - fungus		chitinase (EC 3.2.	chitinase homolog	chitinase (EC 3.2.	chitinase (importe	47K glycoprotein p	hypothetical prote
ID	A49562	851327	S57197	I46470 .	T15408	\$27879	861551	138605	T44445	A53918	A38221	A56596 ·	T14075	A38368	D83764	T04762	T04761	JQ1975	T43916	S47133	S68121	S51369	S51591	JC4565	T04763	T00323	F84238	JC4038	T29275
DB	2	~	~	N	~	~	~	N	N					~	7	N	~	~	~	N	?	7	N		•	•••	~	0	7
% Query Match Length	383	383	537	539	617	399	405	654	525	483	504	554	1635	669	599	379	398	423	, 1215	424	424	423	378	427	366	831	546	452	1484
% Query Match	43.4		40.2	40.0	39.9	38.8	38.5	38.3	36.8	36.1	. 32.9	4	32.8	4	23.1	22.4	21.2	20.8	20.5	20.3	20.1	19.9	19.2	19.1	18.9	18.8	18.5	18.3	18.3
Score	1041.5	1021.5	964.5	959.5	926	930	923.5	917.5	883	864.5	860.5	824	787.5	584.5	554.5	536	509.5	499.5	491	486	481.5	478	460.5	458	453	452	444.5	440	439.5
Result No.	-	7	m	4	'n	9	7	œ	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	. 25	26	27	28	29

LKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 121

62

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8

122 143

23 KLVCYYTSWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLNT

2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG

82 61

GSOGSPAVDKERFITLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ 181 182 NLDPVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 241

hypothetical prote	chitinase (EC 3.2.	hypothetical prote	chitinase (EC 3.2.	chitinase homolog	chitinase B homolo	chitinase B homolo	chitinase - Strept	hypothetical prote	chitinase homolog	chitinase (EC 3.2.	hypothetical prote	chitinase VCA0027	chitinase (EC 3.2.	hypothetical prote	chitinase precurso
T03884	S52422	T24898	S04856	T04756	AB1088	AB1452	T35719	T04753	T04757	T30418	T04754	D82510	T30933	T04758	860651
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25	499	633	499	371	756	756	765	421	365	558	332	849	1054	248	263
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C	18.1	17.8	17.6	17.3	17.3	17.3	17.2	16.7	16.5	16.5	16.4	15.7	15.6	15.1	15.1
18.1															

## ALIGNMENTS

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C;Species: Homo sapiens (man)
C;Date: 23-Mar-1995 #sequence revision 23-Mar-1995 #text_change 22-Jun-1999
C;Date: 23-Mar-1995 #sequence revision 23-Mar-1995 #text_change 22-Jun-1999
C;Date: 23-Mar-1995 #sequence revision 23-Mar-1995 #text_change 22-Jun-1999
C;Date: 28-Mar-1995 #sequence 23-Mar-1995 #text_change 22-Jun-1999
C;Recklies, A.D.
J;Biol. Chem. 268, 25803-25810, 1993
A;Title: Human cartilage gp-39, a major secretory product of articular chondrocytes and the A;Reference number: A49562; MUID:94064658; PMID:8245017
A;Accession: A49562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Nyirkos, P.; Golds, B.E.
Biochem. J. 269, 265-268, 1990
A;Title: Human synovial cells secrete a 39 kDa protein similar to a bovine mammary protei
A;Reference number: S10677; MUID:90328983; PMID:2375755
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Accession: S10677
A;Molecule type: protein
A;Rolecule type: protein
A;Residues: 22-40, XX,42-45 <NY2>
C;Superfamily: Streptonyces chitinase chi40
C;Keywords: cartilage; extracellular protein; glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-383/Product: cartilage glycoprotein gp39 #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
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43.4%; Score 1041.5; DB 2; Length 383;
Best Local Similarity 53.3%; Pred. No. 5.7e-71;
Matches 195; Conservative 66; Mismatches 96; Indels 9;
    - human
cartilage glycoprotein gp39 precursor - N,Alternate names: 39K synovial protein
                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-383 <HAK>
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A; Title: An estrogen-dependent secretory protein, which shares identity with chitinases,
A;Cross-references: EMBL:D16639; NID:g391621; PIDN:BAA04065.1; PID:d1004583; PID:g391622 C;Keywords: glycoprotein
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                                                                                                                                                                                                                                                                                                                                                                                     140 PGLRGSPARDRWTFVFLLEELLQAFKNEAQLTMRPRLLLSAAVSGDPHVVQKAYEARLLG 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQT 359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      315 YVPYAFKGKEWVGYDDAISFGYKAFFIKREHFGGAMVWTLDLDDFRGYFCGTGFFLVHT 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
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C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change O5-Nov-1999
                                                                                                                                                                                       20 KLVCYFTNWAFSRPGPASILPRDLDPFLCTHLVFAFASMSNNQIVPKDPQDEKILYPEFN
                                                                                                                                                                                                                                                   61 GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWBY
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                                                                                                                                                             2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDE-TLYQEFN
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                                                                                                               7;
                                                                       537;
                                                                40.2%; Score 964.5; DB 2; Length 51.0%; Pred. No. 6.1e-65; ive 60; Mismatches 112; Indels
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; Pred. No. 1.5e-64;
57; Mismatches 115; Indels
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A;Accession: 146470
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-539 <DES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C,Accession: 146470
R,DeSouza, M.M.; Murray, M.K.
Endocrinology 136, 2485-2496, 1995
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51.0%;
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Best Local S
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Best Local S
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R;Shackelton, L.M.; Mann, D.M.; Millis, A.J.T.
Submitted to the EMBL Data Library, January 1995
A;Description in Identification of a 38kDa heparin-binding glycoprotein (gp38k) in differe A;Reference number: S51327
A;Accession: S51327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Sendai, Y.; Abe, H.; Kikuchi, M.; Satoh, T.; Hoshi, H.
Biol. Reprod. 50, 927-934, 1994
A;Title: Purification and molecular cloning of bovine oviduct-specific glycoprotein.
A;Reference number: S57197; MUID:94257768; PMID:8199272
    VPYIFRDNÓWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQG-RYPLIQT 359
                              316 VPYATKGNQWYGYDDQESVKSKVQYLKDRQLAGAMVWALDLDDFGGSFCGQDLRFPLTNA 375
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                143 GRR-----DKRHLTTLVKEMKAEFVREA-LPGTERLLLSGAVSAGKVAIDRGYDIAQISQ 196
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82
                                                                                                                                                                                                                                                 heparin-binding glycoprotein 38K - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Species: Bos primigenius taurus (cattle)
Date: 28-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A,Molecule type: mRNA
A,Residues: 1-183 <SHA>
A,Cross-references: EMBL:247803; NID:g634097; PIDN:CAA87764.1; PID:g634098
C,Superfamily: Streptomyces chitinase chi40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHL1YAFAGMTNHQLSTTEWNDETLYQEFNG
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42.6%; Score 1021.5; DB 2;
Best Local Similarity 52.2%; Pred. No. 1.9e-69;
Matches 191; Conservative 67; Mismatches 99;
                                                                                            LRQELS 365
                                                                                                                          376 IKDALA 381
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A;Residues: 1-537 <SEN>
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a secretory protein (YM-1) transiently expre

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C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 22-Jun-1999 C;Accession: $27879  
R;Chang, N.C.A: Liu, C:H.; Chang, A.C.  
Submitted to the EMBL Data Library, June 1992  
A;Description: Molecular characterization of a secretory protein (YM-1) tran A;Reference number: $27879  
A;Accession: $27879  
A;Accession: $27879  
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATKORIODOKVPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDF-AGFSC 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NQGR-YPLIQTLRQELSLPYLP----SGTPELEVPKPGQP-----S 385
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                                                                   317
                                                                                                                          300 KVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQT 359
                                                                                                                                                          318 YVPXAFKGKEWVGYDDAISFGYKAFFIKREHFGGAMVWTLDLDDFRGNFCGTGFFFLAHT 377
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                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein C04F6.3 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T15408
           LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQR-IQDQ
                                              YQEFNGLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               submitted to the EMBL Data Library, December 1995
A; Description: The sequence of C. elegans cosmid C04F6.
A; Reference number: Z18346
A; Accession: T15408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary; translated from GB/EMBL/DDBJ
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A;Introns: 28/1; 66/2; 504/1
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A; Residues: 1-617 <NHA>
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secretory protein YM-1 precursor - mouse C; Species: Mus musculus (house mouse)

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C; paceles: Wus musculus (house mouse)
C; pacels: 19-Mar-1997 #sequence revision 25-Apr-1997 #text_change 20-Jun-2000
C; pacesion: S61551; 861550; 148271
R; Morrison, B.W.; Leder, P.
Oncogene 9, 3417-3426, 1994
A; Title: neu and ras initiate murine mammary tumors that share genetic markers generally A; Reference number: 148271; MUID:95060797; PMID:7970700
A; Accession: S61551
A; Reference number: 148271; MUID:95060797; PMID:7970700
A; Accession: S61551
A; Reference number: 1405 cMOR1>
A; Residues: 1-405 cMOR1>
A; Residues: 1-405 cMOR1>
A; Residues: 1-405 cMOR1>
A; Residues: B.W.
Submitted to the EMBL Data Library, November 1995
A; Accession: S61550
A; Molecule type: mRNA
A; Residues: 1-245, 1', 247-330, 'H', 332-350, 'MVMALDLDDFQGTCQPREFFPLTNAIXDALA' cMOR2>
A; Cross-references: EMBL:X93035; NID:91085065; PIDN:CAA63603.1; PID:91085066
A; Note: the differences: EMBL:X93035; NID:91085065; PIDN:CAA63603.1; PID:91085066
A; Note: the differences at the carboxyl end are due to a frameshift error
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                                                                                                                                                                                                                                                                                                                                                                                         203 SLLDYIQVMTYDLHDPKDGYTGENSPLYKSPYDIGKSADLNVDSIISYWKDHGAASEKLI 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  299 QKVPYIFRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQ 358
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                                                                                                                                                      LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQD
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                                                                                                                 2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                             10;
      Length 399;
                                                          Indels
38.8%; Score 930; DB 2;
46.9%; Pred. No. 1.6e-62;
tive 68; Mismatches 122
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C,Superfamily: Streptomyces chitinase chi40
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383 TLKGDLNIHSASCKGPY 399
                                                             Matches 177; Conservative
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12;
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                                                                                        TL-----RQELSLPYLP-----SGTPELEVPKPGQPSEPEHGPSPGQD--TFCQ 400
                                                                                                                                                                                               377 VLNDILVRAEFSSTSLPOFWLSSAVNSSSTDPERLAVTTAWTTDSKILPPGGEAGVTEIH 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DGLDLDWEYPGSQ-GSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYV 170
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GV-CGGGRYPLMHEIRSLVNGGTPSTTTMP--PSVAPTTSTVAPGTTTTTTPTGANPGTTQ 438
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                                                                                                                       chifinase (BC 3.2.1.14) [imported] - African malaria mosquito
C;Species: Anopheles gambiae (African malaria mosquito)
C;Date: 21-Jan-2000 #sequence revision 21-Jan-2000 #text_change 21-Jan-2000
32 KVVCYVGTWAVYRPGNGRYDIEHIDPSLCTHLMYGFFGI--NEDATVRIIDPPYLDLEENW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90 GRGHIKRFVGLKAVGPGLKTLAAIGGWNEGSRKFSAAMAASGELRKRFISDCVAFCQRHGF
                                                                    QKVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 36.8%; Score 883; DB 2; Length 52
Best Local Similarity 36.3%; Pred. No. 8.4e-59;
Matches 181; Conservative 91; Mismatches 158; Indels
                                                                                                                                                                                                                                                                                                                                                                                                         C.Species: Noopheles gambiae (African malaria mosquiton C.Species: Anopheles gambiae (African malaria mosquiton C.Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #te: C.Accession: T44445
R.Shen, Z. Jacobs-Lorena, M. Submitted to the EMBL Data Library, June 1997
A.Reference number: Z22771
A.Reference number: Z2771
A.Retus: preliminary; translated from GB/EMBL/DDBJ
A.Residues: type: mRNA
A.Residues: 1-S25 GSHE>
A.Cross-references: EMBLAF008575; PIDN:AAB87764.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental source: adult, gut
C; Genetical
A; Gene: chi-1
C; Keywords: glycosidase, hydrolase
                                                                                                                                                                                                                                           401 GKADGLYPNPR 411
                                                                                                                                                                                                                                                                                   437 GKCENMTITPR 447
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Arcession: 138605
Arcession: 138605
Jol. Reprod. 51, 688-694, 1994
Jol. Reprod. 51, 688-694, 1994
Arcession: 138605; MUID:95,19256; PMID:7819450
                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                               PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                                                                                                                                                                                                                                                                    QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                          256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQ 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KVPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGA----MVWALDLDDFAGFSC---NQG 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              316 KVPFATKGNQWVGYEDKESVKNKVGFLKEKKLAGAWCGHWIWMI-----SGHCQPKNSS 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               202
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCS--WKGATKQRIQD 298
                                                                                                                                                         9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /iductal glycoprotein - human
Species: Homo sapiens (man)
Date: 29-May-1998 #sequence_revision 29-May-1998 #text_change 29-May-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                        23 XLVCYFTSW8QYREGVGSFLPDA1QPFLCTHIIYSPANISSDNMLSTWEWNDESNYDKLN
                                                                                                                                                                                                                                         61 GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23 KLVCYFTNWAHSRPGPASILPHDLDPFLCTHLIFAFASMNNNQIVAKDLQDEKILYPEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KLKERNRELKTLLSIGGWNFGTSRFTTMLSTFANREKFIASVISLLRTHDFDGLDLFFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203 RLLDFINVLSYDLHGSWERFTGHNSPLFSLPEDPKSSA----YAMNYWRKLGAPSEKLI
                                                                                                                                                         2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGM-TNHQLSTTEWNDETLYQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLKKMNPKLKTLLA1GGWNFGTQKFTDMVATANNRQTFVNSA1RFLRKYSFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDE-TLYQEFN
                                                                                                               Gaps
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                            <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27;
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-405/Product: breast-regressing protein brp39 #status predicted
                                                                                                            35;
                                                                    Length 405;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 654;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Score 917.5; DB 2; Length
; Pred. No. 2.9e-61;
66; Mismatches 145; Indels
                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Cross-references: EMBL: U09550; NID: 9529147; PID: 9529148
                                                                  b; Score 923.5; DB 2;
b; Pred. No. 5.1e-62;
69; Mismatches 102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RYPLIQTLRQELSLPYLPSGTPELEVPKP 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 44.8%;
Matches 193; Conservative 6
                                                                  Query Match
Best Local Similarity 47.0%;
Matches 183; Conservative 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A, Molecule type: mRNA
A, Residues: 1-654 <RES>
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A56596
chitinase (EC 3.2.1.14) - tobacco hornworm
chitinase (EC 3.2.1.14) - tobacco hornworm)
C;Species: Manduca sexta (tobacco hornworm)
C;Species: Manduca sexta (tobacco hornworm)
C;Date: 11-Aug-1995 #sequence_revision 11-Aug-1995 #text_change 29-Jan-1999
C;Accession: A56596; Muthukrishnan, S.
Insect Biochem. Mol. Biol. 23, 691-701, 1993
A;Ritla: Sequence of a cDNA and expression of the gene encoding epidermal and gut chiting A;Reference number: A56596; MUID:93357793; PMID:835525
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                                                                                                                                                                                                                                             56 YQEFNGLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLD 115
                                                                                                                                                                                                                                                                              85 YSAVTKLRETNPGLKVLLSYGGYNFGSAIFTGIAKSAQKTERFIKSAIAFLRKNNFDGFD 144
                                                                                                                                                                                                                                                                                                                                          LDWEYPGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYE 175
                                                                                                                                                                                                                                                                                                                                                                      176 VDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTP 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VESLGKNFDLLFLMSYDLHGSWEKNVDLHGKLHPTKGEVSGIGIFNTEFAADYWASKGMP 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     236 ASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQ 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RIODOKY-PYIFRDNOWYGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFAGFSCNOGR 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YPLLNAISSELE---GESENPEITTEEPSITETEAYETDETEETSETEAYDTDETEETSE 435
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YSFDGLDLDWEYPGS--QGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAG 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27 CYYTNWAQYRDGEGKFLPGNIPNGLCTHILYAFAKV--DELGDSKPFEWNDEDTEWSKGM 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTT----EWNDET-----L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Experimental source: larvae
A;Note: sequence extracted from NCBI backbone (NCBIN:136417, NCBIP:136418)
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PEHGPSPGODTFCQ--GKADGLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     / Match 34.4%; Score 824; DB 2; Length 554; Local Similarity 33.7%; Pred. No. 2.6e-54; hes 181; Conservative 87; Mismatches 159; Indels 110;
                                                                                               51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Residues: 1-554 <KRA>
A;Cross-references: GB:U02270; GB:S64757; NID:g406048; PID:g406049
C; Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                  5
                                                                                             80; Mismatches 170;
                                               Score 860.5; DB
Pred. No. 4e-57;
                                               Query Match
Best Local Similarity 37.0%;
Matches 177; Conservative 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary A;Molecule type: mRNA
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                                                                                                               chitinase (EC 3.2.1.14) precursor - braconid wasp (Chelonus sp.)
C;Species: Chelonus sp.
C;Species: Sp.Jul-1995 #sequence_revision 28-Jul-1995 #text_change 21-Jul-2000
C;Accession: A53018
R;Krishnan, A.; Nair, P.N.; Jones, D.
J. Biol. Chem. 269, 20971-20976, 1994
A;Title: Isolation, cloning, and characterization of new chitinase stored in active form A;Reference number: A53918; WUID:94342256; PMID:8063715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C,Accession: A38221
R;Fuhrman, J.A.; Lane, W.S.; Smith, R.F.; Piessens, W.F.; Perler, F.B.
Proc. Natl. Acad. Sci. U.S.A. 89, 1548-1552, 1992
A;Title: Transmission-blocking antibodies recognize microfilarial chitinase in brugian A;Reference number: A38221; MUID:92179220; PMID:1542646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DWEYPGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEV 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQR 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         316 VQDNEKGVPYAVKGNQWVSFDDLAAIKAKAQFIKQEGLGGAMVWSIETDDFKGL-CGE-K 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             354 YPLIQTLRQEL----SLP-----YLPSGTPE----LEVPKPGQPSEPEHGPSPGQD 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QEFNGLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDL 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               177 DKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPA 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               296 IQDQK--VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGR 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23 KVVCYFGAMSVYRQGNGKFDINGIDPTLCTHLIYSFVGVNGKDVKVLDPWSDLPGNLDGF 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C,Species: Brugia malayi
C,Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 21-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTE-WND----ETLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          374 YPVLKALNSVLGRGGSSSPAETKRKNNVPDDQPAPPRSFAEDSAPEAPVEPEVSSESGE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                     A,Residues: 1-483 <KRI>
A,Cross-references: GB:U10422; NID:g533504; PIDN:AAA61639.1; PID:g533505
C,Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:M73689; NID:g156063; PIDN:AAA27854.1; PID:g156064
A;Note: sequence extracted from NCBI backbone (NCBIP:85345)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --CSSVGQFLV---GQNCGYLVCDDDGMGGFRKIPGVCPQGLCFNPANNYCDW 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          45;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36.1%; Score 864.5; DB 2; Length 37.6%; Pred. No. 1.9e-57; tive 79; Mismatches 171; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chitinase (EC 3.2.1.14) MF1 - nematode (Brugia malayi)
  FTCPPGTLFDPALHICNW 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 37.6%
Matches 178; Conservative
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                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
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Qy         346 GFSCNQGRYPLIQTLRQEL 364           Db         1606 G-RCGCGRHPLLKTWNQEL 1623	RESULT 14 A38368 chitinase (EC 3.2.1.14) precursor - Bacillus circulans C;Species: Bacillus circulans C;Decies: 28-un-1991 #sequence_revision 28-un-1991 #text_change 15-Oct-1999	C, McCasslo, T.; Suzuki, K.; Oyanagi, W.; Ohnishi, K.; Tanaka, H. T, Biol. Chem. 265, 15659-15665, 1990 J, Biol. Chem. 265, 15659-15665, 1990 A, Title: Gene cloning of chitinase Al from Bacillus circulans WL-12 revealed its evolutic A, Reference number: A38368; MUID:90368776; PMID:2203782 A, Accession: A38368 A, Status: preliminary	A, Molecule type: DNA A, Rosidues: 1-699 - WARIN- A, FRESIDUES: 1-699 - WARIN- A, Cross-references: GB.M57601, GB.J05599; NID:g1066341; PIDN:AAA81528.1; PID:g142688 C; Superfamily: fibronectin type III repeat homology C; Keywords: glycosidase; hydrolase; polysaccharide degradation	Query Match 24.4%; Score 584.5; DB 2; Length 699; Best Local Similarity 33.0%; Pred. No. 4.5e-36; Matches 147; Conservative 71; Mismatches 143; Indels 85; Gaps 16;	Qy 2 KLVCYFTNWAQYRQGBARPLPKDLDPSLCTHLIYAFAGM	Oy 41 TNHQLSTTEWNDETLYQEFNGLKKYNPKLKTLAI 75	OY 76 GGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPGSQGSPAVD 130	131 KERFTILVQDLANAFQQBAQTSGKERLLLSAAVPAGGTYVDAGYEVDKIAQNLDFVNLMA 	191 YDFHGSWEKVTGHNSPLYKRQEEGGAAASLAVDAAVQWLQKGTPASKLILGMPTY     :  :  :	Qy 247 GRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSWKGATKQRIQDQKVP 302	397 YLYNASNKRFISYDDABSVGYKPAYIKSKGLGGAMFWELSGDRNKTL 4 361 ROELSIPYLPSGTPELEVPKPGQP 384	Db 444 QNKLKAD-LPTGGTVPPVDTTAPSVP 468	RESULT 15  D83764 Chitinase BH0916 [imported] - Bacillus halodurans (strain C-125) C;Species: Bacillus halodurans C;Date: 01-Dec-2000 #secuence revision 01-Dec-2000 #text change 15-Jun-2001	C;Accession: D83764 R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hiran Nucleic Acids Res. 28, 4317-4331, 2000 b. Title. Complete canone camenone of the alkalinhilic harterium Racillus halodurans and c	
Qy 167 QTYVDAGYEVDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEBSGAAASLNVDAAV 226 :	Qy 227 QQWLQXGTPASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPCPFTKEGGMLA 281	310 YIELCIEVDKDUSGWIKKWUEKGAKUFYAIKGIQWWQYEDFKAVEIKNWIKQGIEGAFTI 337 WALDLDDFAGFSCNQCRYPLIQTLRQELSLPYLPSGTPELEVPKPGQPSEPEH   :	427 GDPIPTTTAKPASTTKTTVKTTTTTAKPPQSVIDEENDINVRPEPK 398FCQGKADGLYPNPRERSSFYSCAAGRLFQQSCPTGLVF	)	chitinase (EC 3.2.1.14) - yellow fever mosquito C,Species: Aedes aegypti (yellow fever mosquito) C,Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999	C;Accession: 1140', Specht, C.A.; Liu, Y.; Robbins, P.W. R;de La Vega, H.; Specht, C.A.; Liu, Y.; Robbins, P.W. Insect Mol. Biol. 7, 233-239, 1997 A.Title: Chitinases are a multi-gene family in Aedes, Anopheles, and Drosophila.	A; Retelent Number; 11/0/2 A; Accession: T14075 A; Status: preliminary; translated from GB/EMBL/DDBJ A; Wolecule type: DNA	A; Kesiques: 1-1635 < VBLD> A; Cross-references: EMBL:AF026492; NID:g2564720; PID:g2564721; PIDN:AAB81850.1 A; Cenetics: A; Gene: CHT2 A; Introns: 462/3; 524/3; 618/1; 951/3; 1151/2		Matches 157; Conservative 72; Mismatches 121; Indels 29; Gaps 11;  Qy 2 KLVCYFTNWAQYRQCEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLY 56	57 QEFNGLKKAMPELKTLIAGGWNFGT-QKFTDMVATANNRQTFVNSAIRFLRKYSFDGLD	OY 116 LDWEYPGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTY 169  1376 LDWEYPVCWQVDCKKGFPD-EKEGFAELVKELAIEFRPRKWLLSAAVSPSKWV 1427	QY 170 VDAGYEVDKIAQNLDFVNLWAYDFHGSWEKYTGHNSPLYKRQEESGAAASLNVDAAVQQW 229	Qy 230 LQKGTPASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVC 286	Qy 287 SWKGATKQRIQDQKV-PYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFA 345 :

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zuki, K.; Oyanagi, W.; Ohnishi, K.; Tanaka, H.
, 15659-15665, 1990
ing of chitinase Al from Bacillus circulans WL-12 revealed its evolutic
: A38368; MUID:90368776; PMID:2203782
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: GB:MS7601, GB:J05599; NID:g1066341; PIDN:AAA81528.1; PID:g142688
ronectin type III repeat homology
idase; hydrolase; polysaccharide degradation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSWEKVTCHNSPLYKROEESGA----AASLNVDAAVQOWLOKGTPASKLILGMPTY 246
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -- DNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFAGFSCNOGRYPLIQTL 360
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                                                                                                                                                                               #sequence_revision 28-Jun-1991 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24.4%; Score 584.5; DB 2; Length 699;
33.0%; Pred. No. 4.5e-36;
Live 71; Mismatches 143; Indels 85; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGM------
                                                                                                                                             .14) precursor - Bacillus circulans circulans
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NQGRYPLIQTLRQEL 364
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|3CGRHPLLKTMNQEL 1623
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A;Residues: 1-599 <STO>
A;Cross-references: GB:BA0001510; GB:BA000004; NID:g10173440; PIDN:BAB04635.1; GSPDB:GN00
A;Experimental Bource: strain C-125
C;Genetics:
A;Gene: BH0916
                                                                                                                                                                                     18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         334 GRGWSNCDGANQGEYQRCAPPREGTWENGVFDFSDLEDHYINKNGYQRY-----WNDVA- 387
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                                                                                                                                                                                                                                                                                                                                  191 YDFHGSWEKVTGHNSPLY----KRQEESGAAASLNVDAAVQQWLQKGTPASKLILGMPTY 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           294 QRIQDQKVPYIFR--DNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALD-----L 341
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                                                                                                                                                                                                                              2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGM-----TNHQLSTT 48
                                                                                                                                                                                                                                                   ----WNDETL---YQEFNGLKKMNPKLKTLLAI 75
                                                                                                                                  23.1%; Score 554.5; DB 2; Length 599;
28.6%; Pred. No. 6.6e-34;
Live 80; Mismatches 148; Indels 129; Gaps
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442 ADQLGFTPHEGQ-----
                                                                                                                                          Query Match
Best Local Similarity 28.65
Matches 143; Conservative
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GenCore version 5.1.6
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Maximum Match 100%
Listing first 45 summaries
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APHAL
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COCIM
SERMA
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KLULA
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OGP SHEEP
CHIT CAEEL
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                                                                                                                   June 29, 2003, 20:51:08
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Maximum DB seq length: 200000000
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2398
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Q05638 streptomyce	P30922 bos taurus	P22861 debaryomyce	Q45753 bacillus th	P49303 f genome po	P37276 drosophila	P47820 rattus norv	P36908 cicer ariet	P42768 homo sapien	P16271 lactococcus	Q01168 magnaporthe	_	
CHIX STROI	C3L1_BOVIN	AMYG_DEBOC	C5AB_BACUD	POLG FMDVZ	DYHC_DROME	ACE RAT	CHIA CICAR	WASP HUMAN	P1P LACLC	NUTI MAGGR	APBE_HAEIN	
1 7	1 9	1 89	1 68	16 1	. 61	13	3 1	2 1	1 20	99	1 91	
50	(1)	95	128	233	463	131	293	5	190	9	34	
4.6	4.5	4.2	4.2	4.2	4.2	4.2	4.1	4.1	4.1	4.1	4.1	
111.5	108	101.5	101.5	101.5	101	100	66	66	66	98	97.5	
34	35	36	37	38	33	40	41	42	43	44	45	

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-Articular cartilage;

MEDLINE-96225055; PubMed-8702629;

MEDLINE-96225055; PubMed-8702629;

MEDLINE-96225055; PubMed-8702629;

"Isolation and sequence of a novel human chondrocyte protein related to mammalian members of the chitinase protein family.";

J. Biol. Chem. 271:19415-19420(1996).

-!- AITERNATIVE PRODUCTS: 2 ISOFORMS; A SHORT FORM (SHOWN HERE) AND A LONG FORM; MAY BE PRODUCTS: 2 ISOFORMS; A SHORT FORM (SHOWN HERE) AND A LISSUE SPECIPICITY: HIGHEST EXPRESSION IN CHONDROCYTES, FOLLOWED BY SYNOVIOCYTES, LUNG AND HEART. NOT DETECTED IN BRAIN, SPLEEN, PANCREAS, AND LIVER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Grossman A., Matsuyama T., Baker E., Waterhouse P., Sutherland G.R.,
                                                                                                                                                                                           C312_HUMAN STANDARD; PRT; 390 AA.
(015782; 015783; 015749;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Chitinase 3-like protein 2 precursor (YKL-39) (Chondrocyte protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NOSI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -! SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Cloning of a novel lymphoid restricted human chitinase localization to 1p13.3."; Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (SHORT AND LONG ISOFORMS)
ALIGNMENTS
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or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (SHORT ISOFORM).
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EMBL; U49835; AAC50597.1; ALT_INIT.
Genew; HGNC:1933; CH13L2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mak.T.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        39).
CHI3L2.
                                                                                                                                                               C3L2 HUMAN
                                                                                                                      RESULT 1
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PEGM, PP00704; Glyco hydro 18; 1.
ProDom; PD000471; Glyco hydro 18; 1.
PROSITE; PS01095; CHITINASE 18; PALSE NEG.
Hydrolase; Signal; Alternative splicing.
SIGNAL.
SIGNAL.

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Interpro, IPR001579; Chitinase 18/2.
Interpro, IPR001223; Glyco hydro 18
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EMBL; Y08374; CAA69661.1; -.
EMBL; Y08375; CAA69661.1; JOINED.
EMBL; Y08376; CAA69661.1; JOINED.
EMBL; Y08377; CAA69661.1; JOINED.
EMBL; Y08377; CAA69661.1; JOINED.
PIR; S10677; S10677.
PIR; A33162; A33162.
Genew; HGNC:1932; CHI3L1.
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Matches 195; Conservative
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383
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                                                                                                                                                                                                                                                                                                                                                                                                                                                QKVPYIFRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQ 358
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                                                                                                                                                                            87
         MGATTMDQKSLW -> SQQLWLGSPDEVWLYLVCEHTHIFT AIIWDSKTRFGSTDFSFHPSI (IN LONG ISOFORM). 97BB6A2F3AA35677 CRC64;
                                                                                                                                                                                                                           88 LKTKNPKLKILLSIGGYLFGSKGFHPWVDSSTSRLEFINSIILFLRNHNFDGLDVSWIYP
                                                                                                                                                 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                            28 KLVCYPTNWSQDRQEPGKFTPENIDPFLCSHLIYSFASIENNKVIIKDKSEVMLYQTINS
                                                                                                                                                                                                          LKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP
                                                                                                                                                                                                                                                                 GSQGSPAVDKERFITLVQDLANAFQQEAQTSGKERLLLLSAAVPAGQTYVDAGYEVDKIAQ
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                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-Cartilage,
MEDLINE-94064658; PubMed-8245017;
Hakala B.E., White C., Recklies A.D.;
"Human cartilage gp-39, a major secretory product of articular chondrocytes and synovial cells, is a mammalian member of a chitinase protein family.";
J. Biol. Chem. 268:25803-25810(1993).
                                                                                                                   Gaps
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193023;
01-JUL-1993 (Rel. 26, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Chitinase-3 like protein 1 precursor (Cartilage glycoprotein-39)
39) (39 kDa synovial protein) (YKL-40).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Blood;
MEDLINE=27386591; PubMed=9244440;
Rehli M., Krause S.W., Andressen R.;
"Molecular characterization of the gene for human cartilage gp-39
"(CHIJLI), a member of the chitinase protein family and marker for denorice 43:221-225(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                        DB 1; Length 390;
                                                                                    ; Score 1045.5; DB 1; Length; Pred. No. 3.8e-72; 76; Mismatches 90; Indels
3-LIKE PROTEIN
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   CHITINASE
                                                          43500 MW;
                                                                                      43.6%;
                                                                                                                  Matches 191; Conservative
390
35
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                                                          390 AA;
                                                                                                     Similarity
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SEQUENCE OF 22-45.
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             CARBOHYD
VARSPLIC
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                                                          SEOUENCE
                                                                                    Query Match
                                                                                                     Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQK 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQG-RYPLIQT 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       316 VPYATKGNQWYGYDDQESVKSKVQYLKDRQLAGAMWWALDLDDFQGSFCGQDLRFPLTNA 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23 KLVCYYTSWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGWTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
MEDLINE=90128983; PubMed=2375755;

Nyirkos P., Golds E.E.;
"Human synovial cells secrete a 39 kDa protein similar to a bovine
"Human synovial cells secrete a 18 bDa protein similar to a bovine
mammary protein expressed during the non-lactating period.";
Biochem. J. 269:265-268(1990)
-!- FUNCTION: MAY PLAY AN IMPORTANT ROLE IN THE CAPACITY OF CELLS TO
RESPOND TO AND COPE WITH CHANGES IN THEIR ENVIRONMENT.
-!- SUBCELLULAR LOCATION: Extracellular.
-!- TISSUE SPECIFICITY: PRESENT IN ARTICULAR CHONDROCYTES, SYNOVIAL
CELLS AS WELL AS IN LIVER. UNDETECTABLE IN MUSCLE.TISSUES, LUNG,
PANCERSA, MONONUCLEAR CELLS, OR FIBROBLASTS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1; Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHITINASE-3 LIKE PROTEIN 1.
N-LINKED (GLCNAC. . .) (POT
76ADD8298EEEC2D1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    43.4%; Score 1041.5; DB 353.3%; Pred. No. 7.5e-72; tive 66; Mismatches 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam, PF00704; Glyco hydro 18; 1.
ProDom; PD000471; Glyco hydro 18; 1.
PROSITE; PS01095; CHITINASE 18; FALSE NEG.
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61 GLKKMNPKLKTLLAIGGWNFGTOKFTDMVATANNROTFVNSAIRFLRKYSFDGLDLDWEY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80 KLKERNRGLKTLLSIGGWNFGIVRFTTMLSTFSNRERFVSSVIALLKTHGFDGLDLFFLY 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20 KLVCYFTNWAFSRPGPASILPRDLDPFLCTHLVFAFASMSNNQIVPKDPQDEKILYPEFN
                                                                            KVPYIFRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDE-TLYQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               glycoprotein.";
Biol. Reprod. 50:927-934 (1994).
-i. FUNCTION: BINDS TO OOCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROI
-i. FUNCTION: BINDS TO OOCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROI
-i. FUNCTION: BERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
-i. SUBCELLULAR LOCATION: Secretory granules.
-i. TISSUE SPECIFICITY: OVIDUCT.
-i. SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Merazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
01-NOV-1997 (Rel. 35, Last annotation update)
001-NOV-1997 (Rel. 35, Last annotation update)
001-NOV-1997 (Rel. 35, Last annotation update)
001-NOV-1997 (Rel. 35, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sendai Y., Abe H., Kikuchi M., Satoh T., Hoshi H.; "Purification and molecular cloning of bovine oviduct-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1; Length 537;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OVIDUCT-SPECIFIC GLYCOPROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
40.2%; Score 964.5; DB 1; Length
Best Local Similarity 51.0%; Pred. No. 8.5e-66;
Matches 186; Conservative 60; Mismatches 112; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED (GLCNAC. . .) (PACEDCEEF0212D791 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; D16639; BAA04065.1; -.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR00123; Glyco-hydro_18.
Pfam; PF00704; Glyco-hydro_18; 1.
Probom; PD000471; Glyco-hydro_18; 1.
PROSITE; PS01095; CHITINASE 18; FALSE_NEG.
Glycoprotein; Pertilization; Signal.
NON TER 1
                                                                                                                                                                                                                                                                                                                                                                       537 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A., AND SEQUENCE OF 19-47.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=94257768; PubMed=8199272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   59617 MW;
                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18
537
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537 AA;
                                                                                                                                                                                  360 LRQELS 365
                                                                                                                                                                                                                      :: |:
376 IKDALA 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Oviduct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OVGP1 OR OGP
                                                                                                                                                                                                                                                                                                                                                                       OGP_BOVIN
Q28042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                            300
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                                                                                                                                                                                                                                                                                                                                            OGP_BOVIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ONLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQ 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Morrison B.W., Leder P.; "neu and ras initiate murine mammary tumors that share genetic markers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGM-TNHQLSTTEWNDETLYQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23 KLVCYFTSWSQYREGVGSFLPDAIQPFLCTHIIYSFANISSDNMLSTWEWNDESNYDKLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83 KLKTRNTNLKTLLSVGGWKFGEKRFSEIASNTERRTAFVRSVAPFLRSYGFDGLDLAMLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           generally absent in c-myc and int-2-initiated tumors.";
Oncogene 9:3417-3426(1994).
-!- FUNCTION: MAY PLAY AN IMPORTANT ROLE IN THE CAPACITY OF CELLS TO
RESPOND TO AND COPE WITH CHANGES IN THEIR ENVIRONMENT (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                         mus muscula (Modes).
Busaryota Meracasa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musimae; Mus
                                                                                                                                                                                                     16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Chitinase-3 like protein 1 precursor (Cartilage glycoprotein-39)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 21 POTENTIAL.
22 381 CHTINABER 3 LIKE PROTEIN 1.
60 60 N-LINKED (GLCNAC. . ) (POTENTIAL)
381 AA, 43001 MW, EP6581E8184F0450 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -i- SUBCELLUIAR LOCATION: Extracellular (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41.1%; Score 984.5; DB 1
50.5%; Pred. No. 1.6e-67;
iive 73; Mismatches 99
                                                                                                                                381 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MGD; MGI:1340899; Chi311.
InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR00123; Glyco hydro 18.
Pram; PR00704; Glyco hydro 18; 1.
ProDom; PD000471; Glyco hydro 18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=FVB/N; TISSUE=Breast;
MEDLINE=95060797; PubMed=7970700;
                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X93035; CAA63603.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 185; Conservative
                                                                                                                                                                                                                                                                                          (BRP39 protein).
                                                                                                                              STANDARD;
                                                                                                                                                                               16-OCT-2001 (Rel. 40,
                                                                                                                                                                                                                                                                                                                                              musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycoprotein; Signal
376 IKDALA 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                   CHI3L1 OR BRP39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY)
                                                                                                                              C3L1 MOUSE
Q61362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
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Nhan M.;
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SEQUENCE OF 10-539 FROM N.A.

MEDLINE-96329120; PubMed=8726871;

MEDLINE-96329120; PubMed=8726871;

MARSHALL J.T.A., Nancarrow C.D., Brownlee A.G.;

"Cloning and sequencing of a CDNA encoding an ovine

RT MARSHALL J.T.A., Nancarrow C.D., Brownlee A.G.;

"Cloning and sequencing of a CDNA encoding an ovine

oestrum-associated oviducal protein.";

REPPOOL FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.

-I- FUNCTION SECRETORY: Secretory granules.

-I- TISSUE SPECIFICITY: OVIDUCT.

-I- TISSUE SPECIFICITY: OVIDUCT.

-I- DEVELOPMENTAL, STAGE: LEVELS ARE HIGHEST IN THE FIMBRIA AND AMPULLA

AT ESTRUS AND 'ON DAY 1 OF PREGNANCY, MERG GAMPET TRANSPORT AND

PRETILIZATION OCCURS IN THE E2-DOWINATED FALLOPTAN TUBE. LEVELS

CC SECLINE SIGNIFICANTLY ON DAY 2 AND UNDERGO A FURTHER SIGNIFICANT

REDUCTION ON DAY 3 OF PREGNANCY COINCIDENT WITH TRANSPORT OF THE

EMBRYO FROM THE OVIDUCT TO THE UTBRUS, A REPRODUCTIVE STAGE

ASSOCIATED WITH RISING PROGESTERONE LEVELS.

-I- SIMILARITY: BELONGS TO PAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EWBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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                                                                                                                                                                               PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                   240
                                                                                               254
                                                                                                                                         140 PGLRGSPARDRWTFVFILLEELLQAFKNEAQLTWRPRLLLSAAVSGDPHVVQKAYEARLLG
                                                                                    241 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQ
                                                                   ONLDFVNLMAYDFHGSWEKVTGHNSPLYKROEESGAAASLNVDAAVQQWLQXGTPASKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Desouza M.M., Murray M.K.; "An estrogen-dependent secretory protein, which shares identity with chitinases, is expressed in a temporally and regionally specific manner in the sheep oviduct at the time of fertilization and embryo
                                                                                                                                                                                                                                                                                                                                        01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein) (Estrus-associated oviducal glycoprotein) (OGGP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
Bovidae, Caprinae, Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A., AND SEQUENCE OF 22-39
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLLSAAVPAGQTYVDAGYEVDKIA 180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      143 PGLRGSPARDRWTFVFLLEELLQAFKNEAQLTMRPRLLLSAAVSGDPHVIQKAYDARLLG
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Rhabditidae, Peloderinae, Caenorhabditis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40.0%; Score 959.5; DB 1; Length 539; 51.0%; Pred. No. 2e-65; tive 57; Mismatches 115; Indels 7.
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N-LINKED (GLCNAC. . .) (POTENT
                                                                                                                                                                                                                                                                                                                                                                                         A -> V (IN REF. 2).
A -> V (IN REF. 2).
R -> H (IN REF. 2).
I -> T (IN REF. 2).
; F35000269987C193 CRC64;
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01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Putative endochitinase (EC 3.2.1.14).
       removed.
                                                                                                                               InterPro; IPR001279; Chitinase 18/2.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18; 1.
Probom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
Glycoprotein; Fertilization; Signal.
SIGNAL
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                            entities requires a license agreement ((
or send an email to license@isb-sib.ch)
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                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              236 ASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFT---KEGGMLAYYEVCSW--KG 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            291 ATKQRIQDQKVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDF-AGFSC 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 348 ATRYMDSQSQVPYLVQGNQWMSYDDEBSFANKMAXVKREGYGGAFVWTLDFDDFNAGCSN 407
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                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
            -!- CATALYTIC ACTIVITY: Hydrolygis of the 1,4-beta-linkages of N-acetyl-D-glucosamine polymers of chitin.
                                                                                                                                                                                                  WormPep; Codfe.3; CE03323.
InterPro; IRR001257; Chitin bind PerA.
InterPro; IRR0012279; Chitinase 18/2.
InterPro; IRR001223; Ciyco hydro 18/2.
Fam; PF00704; Glyco hydro 18; 1.
Propom; PE000471; Glyco hydro 18; 1.
Probom; PE000471; Glyco hydro 18; 1.
PROSITE; PS01095; CHITINASE 18; 1.
Hypothetical protein; Hydrolase; Glycosidase; Chitin degradation.
ACT SITE 179 179 179
DOWAIN 435 478 THR-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                 39.9%; Score 956; DB 1; Length 617; 40.8%; Pred. No. 4.5e-65; tive 78; Mismatches 157; Indels
Submitted (DEC-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                           179 179 PROTON DONOR (BY SIMILARI
435 478 THR-RICH.
617 AA; 66857 MW; DDA1D2AAAC0ES4DA CRC64;
                                                                                                                                                                                        EMBL; U42835; AAA83586.1; -.
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Matches 195; Conservative
                                                    HYDROLASES) .
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 KVPYIFRDNOWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQT 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         318 YVPYAYRGKEWVGYDDDISFSYKAFFIKKEHFGGAMVWTLDLDDVRGTFCGTGFFFLVYM 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23 KLVCYFANWAFSRPGPASILPRDLPFLCTHLVPAFASMNDSQIVAKDARDESIFYPEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMINHQLSTTEWNDETL-YQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

STRAIN=YOLKShire X Duroc X Hampshire; TISSUE=Oviduct;
MEDINE=97107140; PubMed=8949888;
Buhi W.C., Alvarez I.M., Choi I., Cleaver B.D., Simmen F.A.;
"Molecular cloning and characterization of an estrogen-dependent porcine oviductal secretory glycoprotein.";
Biol. Reprod. 55:1305-1314(1996).

IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT:
SUBCELLUAR LOCATION: Secretory granules.
                                                                                  Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
NCBI_TaxIb=9823;
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BY SIMILARITY.

BY SIMILARITY.

OVIDUCT SPECIFIC GLYCOPROTEIN.

N-LINKED (GLCNAC. .) (POTENTIAL).

N-LINKED (GLCNAC. .) (POTENTIAL).

N-LINKED (GLCNAC. .) (POTENTIAL).
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein) (Oviductin) (Bstrogen-dependent oviduct protein) (POSP-B3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39.5%; Score 947.5; DB 1; Length 527; 49.9%; Pred. No. 1.6e-64; Live 60; Mismatches 116; Indels 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -i- TISSUE SPECIFICITY: OVIDUCT.
-i- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22 527 OVIDUCT-SPECIFIC GLYCOPROT 62 62 N-LINKED (GLCNAC. . . ) (PC 402 402 N-LINKED (GLCNAC. . . ) (PC 411 411 N-LINKED (GLCNAC. . . ) (PC 527 AA; $8819 MW; 31B78F49CA2363A2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR0012573; Glyco_hydro_18.
Prom: PF00704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
SIGNAL.
21 BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U43490; AAA85445.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best_Local Similarity 49.9%
Matches 182; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LRQEL 364
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Created)
Last sequence update)
Last annotation update)

(Rel. 35, (Rel. 35, 1) (Rel. 41, 1)

OGP PIG Q28990; 01-NOV-1997 ( 01-NOV-1997 ( 15-JUN-2002 (

527 AA

STANDARD;

RESULT 7 OGP_PIG ø

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181 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                  LRQELSLPYLPSGTP 374
                                                                                                                                                                         378 L-NĖLLVQTESNSTP 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 22-671 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Oviduct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  glycoprotein.";
                                                                                                                                                                                                                                                                                                                             OVGP1 OR OGP.
                                                                                                                                                                                                                                                                                                                                         Mesocricetus
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                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce) or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                82
                                                                                                                                                                                                                                                                                      "Molecular cloning and characterization of a mouse oviduct-specific glycoprotein.";
Biol. Reprod. 53:285-294(1995).
-!- FUNCTION: BINDS TO OOCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
-!- SUBCELLULAR LOCATION: Secretory granules.
-!- TISSUE SPECIFICIATY: EPITHELIAL CELLS OF THE OVIDUCT.
-!- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PGSQGSPAVDKERFTILVQDIANAFQQEAQTSGKERLILSAAVPAGQTYVDAGYEVDXIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDE-TLYQEFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                               Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OVIDUCT-SPECIFIC GLYCOPROTEIN.
21 X 7 AA TANDEM REPEATS OF S-K-T-T-[TAP]-G-[IV].
                                                                                    01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-JUD-2002 (Rel. 41, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein).
OVGP1 OR OGP OR CHITS.
                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STRAIN=ICR; TISSUE=Oviduct;
MEDLINE=96115001; PubMed=7492680;
Sendai Y., Komiya H., Suzuki K., Onuma T., Kikuchi M., Hoshi H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    39.3%; Score 942; DB 1; Length 72
49.3%; Pred. No. 6.5e-64;
Live 60; Mismatches 122; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      78807 MW; 37246C8F01665652 CRC64;
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N-LINKED (GLCNAC. . .)
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InterPro; IRR001579; Chitinase 18/2.
InterPro; IRR001223; Chitinase 18/2.
InterPro; IPR001223; Chydro_18
ProDom; PF00704; Glyco_hydro_18; 1.
ProDom; PE000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE 18; FALSE NEG.
Glycoprotein; Fertilization; Repeat; Signal.
SIGNAL
                                                              721 AA.
                                                              PRT;
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Atches 185; Conservative
                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
 LNDLL 382
                                                                                                                                                                                                    NCBI_TaxID=10090;
                                                                OGP MOUSE
                                                                                                                                                                                                                                                                              Araki Y.;
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OGP_MOUSE
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                            300 KVPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFAGFSCNQGRYPLIQT 359
                                                                                                                                                                                                                                                                                                  MEDLINE=94058981; PubMed=8240241;
MEDLINE=94058981; PubMed=8240241;
Malette B., Bleau G.,
malette B., Bleau G.,
sona pellucida-binding glycoprotein.";
Blochemical characterization of hamster oviductin as a sulphated
zona pellucida-binding glycoprotein.";
Blochemi J. 295447-445(1993).
IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
MIGHT ACT AS A PROTECTIVE SECRETION INFLUENCING THE FIRST STEPS OF
THE REPRODUCTIVE PROCESS NECESSARY FOR THE NORMAL TRIGGERING OF
FERTILIZATION AND EARLY EMBRYONIC DEVELOPMENT.
                                                                                                                                          241 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQ
203 RRLDFINVLSYDLHGSWEKFTGHNSPLFSLPEDSKSSA----YAMNYWRKLGTPADKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Cricetinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OGP MESAU STANDARD; PRT; 671 AA. 060557; Q60526; 01. NOV-1997 (Rel. 35, Created) 01-NOV-1997 (Rel. 35, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) Oviduct-specific glycoprotein precursor (Oviductal glycoprotein) (Oviductin) (Estrogen-dependent oviduct protein) (ZP-0).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Paquette Y., Merlen Y., Malette B., Bleau G.; "Allelic polymorphism in the hamster oviductin gene is due to variable number of mucin-like tandem repeats.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suzuki K., Sendai Y., Onuma T., Hoshi H., Hiroi M., Araki Y., "Molecular characterization of a hamster oviduct-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PTM: HIGHLY O-GLYCOSYLATED AND ALSO N-GLYCOSYLATED. SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 14-671 FROM N.A., AND REVISIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND PARTIAL SEQUENCE TISSUE=Oviduct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    auratus (Golden hamster)
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MEDLINE=96192955; PubMed=8607967;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biol. Reprod. 53:345-354(1995).
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                   (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI 240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                23 KLVCYFTNWAHSRPVPASILPRDLDPFLCTHLIFAFASMSNNQIVANNLQDEKILYPEFN 82
  ou
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  as its content is in
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(POTENTIAL).
(POTENTIAL).
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          and
                                                                                                                                                                                                                                                                                                                                                                                               38.7%; Score 927; DB 1; Length 671;
46.9%; Pred. No. 8.1e-63;
tive 61; Mismatches 135; Indels
                                                                                                                                   OVIDUCT-SPECIFIC GLYCOPROTEIN. 8 X 15 AA TANDEM REPEATS.
                                                                                                                                                                                                                                                                   N-LINKED (GLCNAC...) (FOT N-LINKED (GLCNAC...) (FOT N-LINKED (GLCNAC...) (FOT N-LINKED (GLCNAC...) (FOT N-LINKED (GLCNAC...) (FOT N-LINKED (GLCNAC...) (FOT N-LINKED (GLCNAC...) (FOT N-LINKED 4).

D -> G (IN REF. 2 AND 3).
F -> Y (IN REF. 2 AND 3).
MISSING (IN REF. 2 AND 3).
MISSING (IN REF. 2 AND 3).

MISSING (IN REF. 2 AND 3).

MISSING (IN REF. 2 AND 3).

MISSING (IN REF. 2 AND 3).
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GLCNAC. . . )
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                                                               InterPro; IPR001579; Chittinase_18/2.
InterPro; IPR001221; Glyco.hydro_18.
ProDom; PP00704; Glyco.hydro_18; 1.
ProDom; PD000471; Glyco.hydro_18; 1.
PROSITE, PS01095; CHITIÑASE 18; FALSE NEG.
Glycoprotein; Fertilization; Repeat; Signal.
use by non-profit institutions as long a
modified and this statement is not removed.
entities requires a license agreement (See h
or send an email to license@isb-sib.ch).
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N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                               73250 MW;
                                              EMBL; D32218; BAA06977.1; -. EMBL; U15048; AAC53584.1; -.
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Best Local Similarity 46.9%
Matches 184; Conservative
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595
671 AA;
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Mol. Endocrinol. 5:356-364(1991).
-1- FUNCTION: BINDS TO GOCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROI IN THE PERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
-1- SUBCELLULAR LOCATION: Secretory granules.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=98244335; PubMed=9584944; Verhage H.G., Fazleabas A.T., Mavrogianis P.A., O'Day-Bowman M.B., Donnelly K.M., Arias B.B., Jaffe R.C.; The baboon oviduct: charactics of an oestradiol-dependent oviduct-specific glycoprotein."; Hum. Reprod. Update 3:541-552(1997).
                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                      01-JUN-1994 (Rel. 29, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=91367180; PubMed=1716345;
Donnelly K.M., Fazleabas A.T., Verhage H.G., Mavrogianis P.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38.6%; Score 925.5; DB 1; Length 623; 44.1%; Pred. No. 9.6e-63; ive 66; Mismatches 135; Indels 45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE SPECIFICITY: OVIDUCT.
DEVELOPMENTAL STAGE: AT THE TIME OF OVULATION.
SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
623 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY PARTIAL SEQUENCE FROM N.A.
                                                                                                                                                                                               OVGP1 OR OGP.
Papio anubis (Olive baboon)
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Best Local Similarity 44.19
Matches 194; Conservative
                                                                                                                                                                                                                                                                                                                  Cercopithecinae, Papio.
NCBI_TaxID=9555;
                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                           FISSUE=Oviduct;
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241 1
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KLKERNRELKTLLSIGGWNFGTSRFTTMLSTFANREKFIASVISLLRTHDFDGLDLFFLY 142
                         PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA 180
                                                                                                 257
                                                                                                                            298
                                                                                                                                         QKVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQ 358
                                                                                                                                                                                          -----SGTPELEVPKPGQPSEPEHGP 391
                                                                                                                                                                                                                                             LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCS--WKGATKQRIQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- FUNCTION: BINDS TO COCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE IN THE FRETILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
-!- SUBCELLULAR LOCATION: Secretory granules.
-!- TISSUE SPECIFICITY: OVIDUCT.
-!- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                          ONLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Oviduct;
MEDLINE-95119256; PubMed=7819450;
Arias E.B., Verhage H.G., Jaffe R.C.;
"Complementary deoxyribonucleic acid cloning and molecular characterization of an estrogen-dependent human oyiductal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jaffe R.C.; Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                  678 AA.
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EMBL, U58010; AAB04126.1; -.
EMBL, U58001; AAB04126.1; JOINED.
EMBL, U58003; AAB04126.1; JOINED.
EMBL, U58003; AAB04126.1; JOINED.
                                                                                                                                                                                                                                                                              392 SPGQDTFCQGKADGLYPNPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 glycoprotein.";
Biol. Reprod. 51:685-694(1994)
                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
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01-NOV-1997 (Rel
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GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCS--WKGATKQRIOD 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TL-----RQELSLPYLP-----SGTPELEVPKPGQPSEPEHGPSPGQD--TFCQ 400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299 QKVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYFLIQ 358
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PGLRGSPMHDRWTFLFLIEELLFAFRKEALLTMRPRILLSAAVSGVPHIVQTSYDVRFLG
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                                                                                                                           DB 1; Length 678;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38.3%; Score 917.5; DB 1; Length 44.8%; Pred. No. 4.4e-62; ive 66; Mismatches 145; Indels
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CHIT BRUMA STANDARD; PRT; 504 AA.
AC P29030;
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 01-DEC-1998 (Rel. 24, Last sequence update)
DT 01-EBS-1998 (Rel. 31, Last annotation update)
DE Endochitinase precursor (EC 3.2.1.14) (MF1 antigen).
OS Brugia malayi.
EMBL; U58005; AAB04126.1; JOINED.
EMBL; U58007; AAB04126.1; JOINED.
EMBL; U58007; AAB04126.1; JOINED.
EMBL; U58008; AAB04126.1; JOINED.
EMBL; U58009; AAB04126.1; JOINED.
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Best Local Similarity 44.84
Matches 193; Conservative
                                                                                                 Genew; HGNC:8524; OVGP1.
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                                                                                             319 TVHQEGVGAYMVKGDQWYGYDNEETIRIKMKWLKEKGYGGAFIWALDFDFTGKSCGKGP 378
                                                                                                                                              YPLIQTLRQELSLPYLPSGTPELEVPKPG----------------------QPSE 386
                                                                                                                                                                                           379 YPLLNAISSELE---GESENPEITTEEPSITETBAYETDETEETSETEAYDTDETEETSE 435
259 KEKIIIGIPMYAQGWTLDNPSETAIGAAASRPSSASKTNPAGGTASYWEICKYLKEGGKE 318
                                                295 RIQDQKV-PYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGR 353
                                                                                                                                                                                                                                                                     387 PEHGPSPGQDTFCQ--GKADGLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCC 442
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-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: EPIDERMIS AND GUT.
-!- DEVELOPMENTAL STAGE: HIGH LEVELS SEEN IN THE EPIDERMIS ON DAY 0, BUT RAPIDLY DISAPPEARS AND IS UNDETECTED ON DAYS 1-4 OF FIFTH INSTAR. IT REAPPEARS ON DAY 5 AND PEAKS ON DAY 7 AFTER WHICH A RAPID DECLINE IS SEEN. IN THE GUT IS DETECTED ON DAY 6 WITH LOWER LEVELS SEEN ON DAYS 0, 7 AND 8.
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kramer K.J., Corpuz L., Choi H.K., Muthukrishnan S.;
"Sequence of a cDNA and expression of the gene encoding epidermal and
gut chitinases of Manduca sexta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Endochitinase precursor (EC 3.2.1.14).
Manduca sexta (Tobacco hawkmoth) (Tobacco hornworm).
Eukaryota; Matezaoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda;
Eusecta; Pterygota; Neoplera; Endopterygota; Lepidoptera; Glossata;
Ditrysia; Sphingiodea; Sphingidae; Sphinginae; Manduca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=97215580; PubMed=9061927;
Choi H.K., Choi K.H., Kramer K.J., Muthukrishnan S.;
Choi H.K., Choi K.H., Kramer K.J., Muthukrishnan S.;
"Isolation and characterization of a genomic clone for the gene of insect molting enzyme, chitinase: "insect Biochem. Mol. Biol. 27:37-47(1997).
-i- FUNCTION: DIGEST CHITIN IN THE EXOSKELETON DURING THE MOLTING
                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
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EMBL; L49234; AAB53952.1;
                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
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CHIT_MANSE
ID _CHIT_MANSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDWEYPGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYE 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VESLGKNFDLLFLMSYDLHGSWEKNVDLHGKLHPTKGEVSGIGIFNTEFAADYWASKGMP 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85 YSAVTKLRETNPGLKVLLSYGGYNFGSAIFTGIAKSAQKTERFIKSAIAFLRKNNFDGFD 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    236 ASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQ 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYFINWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMINHQLSTT----EWNDET----L 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27 CYYTNWAQYRDGEGKFLPGNIPNGLCTHILYAFAKV--DELGDSKPFEWNDEDTEWSKGM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   176 VDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTP
                                                                                                                                                                                                                                                                                                                                                                                          CORRESPOND
MOSQUITO.
                                                                                                                                                                                                                                            WHICH MAY
                                                                                                                                                                                                                                                                                         FILARIA OR IN ITS MOSQUITO VECTOR DURING PARASITE DEVELOPMENT AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                            -i- MISCELLANEOUS: KNOWN TO BIND CALCIUM.
-i- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                                                      407 448 3 X 14 AA APPROXIMATE TANDEM REPEATS.
148 , 148 PROTON DONOR (BY SIMILARITY).
504 AA; 55971 MW; A78BE7BFBBE3709B CRC64;
Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;
                                                                                                                                                                                                                                                                                                                                       CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      35.9%; Score 860.5; DB 1; Length 504;
larity 37.0%; Pred. No. 6.2e-58;
Conservative 80; Mismatches 170; Indels 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS01095; CHITINASE 18; 1.
Hydrolase; Glycosidase; Chilin degradation; Signal; Antigen;
Repeat; Glycoprotein; Calcium-binding.
                                                                                                                                                                                                                                                                                                                                                            acetyl-D-glucosamine polymers of chitin.
-!- DEVELOPMENTAL STAGE: THE APPEARANCE OF THE MF1 ANTIGEN WITH THE ONSET OF THE PARASITE'S ABILITY TO INFECT THE -!- PTM: O-GLYCOSYLATED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SER/THR-RICH (LINKER)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR; A38221; A38221.
InterPro; IPR001557; Chitin bind PerA.
InterPro; IPR001557; Chitinase 18/2.
InterPro; IPR001259; Chitinase 18/2.
Pfam; PF00704; Glyco_hydro_l8; 1.
Pfam; PF001607; CBM 14; 1.
ProDom; PD000471; Glyco_hydro_l8; 1.
SMART; SM00494; ChtBD2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ••
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    450
                      Onchocercidae, Brugia.
NCBI_TaxID=6279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 177; Conserv
                                                                                                                                                                                                                                                                                                                   TRANSMISSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HYDROLASES)
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SEQUENCE
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Biol. Chem. 265:15659-15665(1990)
                                           MEDLINE=93366760; PubMed=8103047;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73677 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                           465
465
560
204
200
200
204
699 AA;
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SIGNAL
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MUTAGEN
MUTAGEN
MUTAGEN
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Best Local (
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                                                                                                                                                                                                                                             YSFDGLDLDWEYPGS--QGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAG 166
                                                                                                                                                                                                                                                       226
                                                                                                                                                                                                                                                                                                                         281
                                                                                                                                                                                                                                                                                                                                    251 HLWEEKGCPSNKLVVGIPFYGRSFTLSAGNNNYGLGTFINKEA-GGGDPAPYTNATGFWA 309
                                                                                                                                                                                                                                                                                                                                                               YYEVCSW-----KGATKQRIQDQKVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMV 336
                                                                                                                                                                                                                                                                                                                                                                          WALDLDDFAGFSCNOGRYPLIQTLRQELSLPYLP----SGTPELEVPKPGQPSEPEH 389
                                                                                                                                                                                                                                                                                                                                                                                                                                           GDPIPTTTTAKPASTTKTTVKTTTTTAKPPQSVIDEENDINVRPEPKPEPQPEPEVEVP 486
                                                                                                                                                                                 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----FCOGKADGLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETL----
                                                                                                                                                                           ----YQEFNGLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRK
                                                                                                                                                                                                                QTYVDAGYEVDKIAQNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAV
                                                                                                                                                                                                                                                                                             191 NFRLMEGYHVPELCQELDAIHVMSYDLRGNWAGFADVHSPLYKRPHDQWAYEKLNVNDGL
                                                                                                                                                                                                                                                                                                                                                                                                                QQWLQXGTPASKLILGMPTYGRSFTLASSSD----TRVGAPATGSGTPGPFTKEGGMLA
                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Watanabe T., Suzuki K., Oyanagi W., Ohnishi K., Tanaka H.; "Gene cloning of chitinase Al from Bacillus circulans WL-12 revealed its evolutionary relationship to Serratia chitinase and to the type III homology units of fibronectin.";
                                ENDOCHITINASE.
SER/THR. R.C.
PROTON DONOR (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
PS01095; CHITINASE 18; 1.
e; Glycosidase; Chitin degradation; Signal; Glycoprotein.
19 POTENTIAL.
                                                                                                                        34.4%; Score 824; DB 1; Length 554; 33.7%; Pred. No. 4.2e-55; arive 87; Mismatches 159; Indels 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacteria, Firmicutes, Bacillales, Bacillaceae, Bacillus.
NCBI_TaxID=1397;
                                                                                                .45 N-LINKED (GLCNAC. . .) (PC 62203 MW; 3989D756C96CD490 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
Chitinase Al precursor (BC 3.2.1.14).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ā
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                                                                                                                                            Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacillus circulans.
                                                                                                     554 AA;
                                                                                                                                    Similarity
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               Hydrolase; G
SIGNAL
CHAIN
DOMAIN
ACT_SITE
CARBOHYD
CARBOHYD
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P20533;
                                                                                             CARBOHYD
SEQUENCE
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                                                                                                                         Query Match
                                                                                                                                    Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |:| |: :|| | : || | : || || 45 KIVGYYPSWAAYGR---NYNVADIDPTKVTHINYAFADICWNGIHGNPDPSGPNPVTWTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    162 GGWTW-SNRFSDVAATAATREVPANSAVDFLRKYNFDGVDLDWEYPVSGGLDGNSKRPED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KERFITI VQDLANA FQQEAQTSGKERLILISAA VPAGQTYVDAGY EVDKI AQNLDFVNLMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41 TNHQLSTTE------WND-----ETLYQ------EFNGLKKMNPKLKTLLAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
Watanabe T., Kohori K., Miyashita K., Fujii T., Sakai H.,
Uchida M., Tanaka H.; Miyashita K., Fujii T., Sakai H.,
Uchida M., Tanaka H.;
Midharification of glutamic acid 204 and aspartic acid 200 in
chitinase Al of Bacillus circulans WL-12 as essential residues for
chitinase activity.
J. Blol. Chem. 268:10567-18572(1993).
J. Blol. Chem. 268:10567-18672(1993).
J. SIMILANTIC ACTIVITY: HYDROLOSAMINE Of Chitin.
J. SIMILARITY: CONTAINS 2 FIBRONECTIN TYPE III-LIKE DOMAINS.
J. SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL.
HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85;
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HISSP; P02751; 1FNA.

HIGEPPC; IPR0013610; CBM 5 12.

InterPrc; IPR0013619; Chitinase_18/2.

InterPrc; IPR001361; FN III.

InterPrc; IPR001362; FnIII repeat.

InterPrc; IPR001223; Glyco_hydro_18.

Ffam; PF00041; fn3; 2.

Ffam; PF000041; fn3; 2.

Ffam; PF000041; fn3; 2.

Ffam; PF000041; Glyco_hydro_18; 1.

FroDom; PD000471; Glyco_hydro_18; 2.

SNART; SM004695; ChtBD3; 1.

SNART; SM00060; FN3; 2.

SMART; SM00060; FN3; 2.

RASITE; PS01095; CHITINASE 18; 1.

PHOGOIASE; Glycosidase; Chitin degradation; Signal; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24.4%; Score 584.5; DB 1; Length 699; 33.0%; Pred. No. 9.3e-37; ive 71; Mismatches 143; Indels 85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATALYTIC.
FIBRONECTIN TYPE-III (R-1).
FIBRONECTIN TYPE-III (R-2).
PROTON DONOR (PROBABLE).
D-N: DECREASE IN ACTIVITY.
D-SI NO CHANGE IN ACTIVITY.
E-D,Q: LOSS OF ACTIVITY.
W; AC7C9B22E2997643 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGM-
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423 AA; 46058 MW; 55DFB25B73443F31 CRC64;

SEQUENCE

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   246
                                                                  GRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEV----CSWKGATKQRIQDQKVP 302
                                                                                                    396
                                                                                                                                    YIFR--DNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDFAGFSCNOGRYPLIQTL 360
191 YDFHGSWEKVTGHNSPLYKRQEESGA----AASLNVDAAVQQWLQKGTPASKLILGMPTY
                     SEQUENCE OF 35-67, FROM N.A., AND SEQUENCE OF 35-67.

SEQUENCE OF 35-67, FROM N.A., AND SEQUENCE OF 35-67.

Blaiseau P.-L., Kunz C., Grison R., Bertheau Y., Brygoo Y.,

Blaiseau P.-L., Kunz C., Grison R., Bertheau Y., Brygoo Y.,

"Cloning and expression of a chitinase gene from the hyperparasitic fungus Aphanocladium album.",

Curr. Genet. 21:61-66(1932).

-1- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-acetyl-D-glucosamine polymers of chitin.

-1- SUBCELLULAR LOCATION: Secreted.

-1- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Fungi, Ascomycota, mitosporic Ascomycota; Aphanocladium.
NCBI_TaxID=12942;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=ETHM 483;
MEDLINE=93013040; PubMed=1398137;
Blaiseau P.-L., Lafay J.-F.;
"Primary structure of a chitinase-encoding gene (chil) from the filamentous fungus Aphanocladium album: similarity to bacterial
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CHITINASE 1.
PROTON DONOR (BY SIMILARITY).
                                                                                                                                                       Last sequence update)
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                                                                                                                                                                                                   361 RQELSLPYLPSG--TPELEVPKPGQP 384
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EMBL, S81303; AAB21333.1; --
PIR; JQ1975; Q01975.
HSSP; P07254; JCTN.
InterPro; IPR001279; Chitinase 18/2.
InterPro; IPR001223; Glyco hydro 18, Pfam; PF00704; Glyco hydro 18, IPR0001; PR000121; Glyco hydro 18, IPR0500; P0000471; Glyco hydro 18, IPR051TE; PS01095; CHITINASE 18; I
                                                                                                                                                                                                                                                                                                                                                                                                            (EC 3.2.1.14)
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                                                                                                                                                                                                                                 102 AIRFLRKYSFDGLDLDWEYPGSQGSPAVDKERFTTLVQDLANAFQQ-EAQTSGKERLLLS 160
                                                                                                                                                                                                                                                                                                                                                                                              218 ASLINVDAAVQQWLQKGTPASKLILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEG 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         278 GMLAYYEVCSWKGATKQRIQDQKVPYIF--RDNQWVGFDDVESFKTKVSYLKQKGLGGAM 335
                                                                                                     265 TPYNTDDAVQAYINGGVPANKIVLGMPIYGRSFQQTEG----IGKPYNGIGSG---SWEN
                                                                                                                                                                               Gaps
                                                                             6 YFTNWAQYRQGEARFLPKDLDPSLCTHLIYAF------AGMTNHQLSTTEW
                                                                                                                                                        51 ND-----ETLYQEFNGLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNS
                                    63;
Query Match 20.6%; Score 493.5; DB 1; Length 423; Best Local Similarity 33.9%; Pred. No. 3.8e-30; Matches 132; Conservative 50; Mismatches 144; Indels 63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     336 VWALDLDDFAGFSCNOGRYPLIQTLRQEL 364
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SEQUENCE FROM N.A.
MEDLINE=96064695; PubMed=7592832;
MEDLINE=96064695; PubMed=7592832;
MEDLINE=96064695; PubMed=7592832;
Bloot R.G., Renhema G.H., Strijland A., van Zonneveld A.J., Aerts J.M.;
"Cloning of a cDNA encoding chitotriosidase, a human chitinase
produced by macrophages."
J. Bloot Chem. 270:26252-26256(1995).
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
HYDROLASES).
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Subaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606,
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01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-UNV-2002 (TrEMBLrel. 21, Last annotation update)
Chitotriosidase precursor.
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InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PP01607; CBM 14; 1.
Pfam; PP00704; Glyco_hydro 18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
SWART; SW00494; ChtBD2; 1.
PROSITE; PS01095; CHITINASE 18; 1.
Glycosidase; Hydrolase; Signal.
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018949
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Q91Z98
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09NGK8
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Best Local Similarity 100.
Matches 445; Conservative
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Q90m34 bufo japoni
Q9ppbz mus musculu
Q9wrv1 ratus norv
Q96hi7 homo sapien
Q96E97 homo sapien
Q8spQC capra hircu
Q9411 sus scrocka
Q9vxv2 drosophila
Q9vxv2 drosophila
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Q9h3v8 homo sapien
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Q9bzp6 homo sapien
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Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                                                                                                                         GLKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEY 120
                                                                                                                                                                                                                                                              PGSQGSPAVDKERFTTLVQDLANAFQQBAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                                                                                                                                                                                                                   1 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHOLSTTEWNDETLYQEFN
                                                                                                             22 AKLVCYFTNWAQYRQGBARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFN
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                                                                                                                                                                                                                                                                                                                                                 QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
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-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL-HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Functional annotation of a full-length mouse cDNA collection.";
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    DB 4; Length 387;
                                            0; Indels
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Last annotation update)
Score 1935; DB 4;
Pred. No. 6.8e-142;
1; Mismatches 0;
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MEDLINE=21085660; PubMed=11217851;
Query Match 80.7%;
Best Local Similarity 99.7%;
Matches 364; Conservative 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-MAR-2002 (TrEMBLrel. 20,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
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2300002L19RIK.
Mus musculus (Mouse).
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                             22 AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAPAGMTNHQLSTTEWNDETLYQEFN
                                                                                                                                                                                                                                                                                                                                                                            262 LGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTXEGGMLAYYEVCSWKGATKQRIQDQK
    AKLVCYFTNWAQYRQGEARFLPKDLDPSLCTHL1YAFAGMTNHQLSTTEWNDETLYQEFN
                                                                                                                                                                              PGSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIA
                                                                                                                                                                                                                                                              QNLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLI
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-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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SEQUENCE FROM N.A.
MEDLINE=98421482; PubMed=9748235;
BOOK R.G., Renkema G.H., Verhoek M., Strijland A., Bliek J.,
de Meulemeester T.M., Mannens M.M., Aetts J.M.,
"The human chitotriosidase gene. Nature of inherited enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHITOTRIOSIDASE.
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL, UGSG2, AAG10644.1, -... InterPro, IPR001579; Chitinase_18/2.
InterPro, IPR00123; Glyco hydro_18, Plam, PF00704; Glyco hydro_18, Probom, PD000471; Glyco hydro_18; IPROSITE; PS01095; CHITINASE_18; 1.
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SIGNAL 1 21 P
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01-MAR-2001 (TrEMBLrel. 16,
01-MAR-2002 (TrEMBLrel. 20,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          387 AA;
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LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSFCAVRAN 435
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                                                                                                                                                                                                                                                                                                                                                                                                             203 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 262
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                                                                                                                                                                                               LKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTPVNSAIRFLRKYSFDGLDLDWEYP 121
                                                                                                                                                                                                                                                                                         GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ 181
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                                                                                                                                    23 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG 82
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"YNL, A Putative Mouse Chitinase.";
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
-1- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                               Gaps
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                             24;
                  Length .476;
                     55.2%; Score 1323; DB 4; Length 4
52.2%; Pred. No. 2.8e-94;
Live 70; Mismatches 126; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2000 (TrEMBLrel. 15, Last sequence update) 01-JUN-2002 (TrEMBLrel. 21, Last annotation update) Putative chitinase precursor (Fragment).
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MGD; MGI:1932052; Chia.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18
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Pfam; PF01607; CBM 14; 1.—'
Probom; PD000471; Glyco hydro 18; 1.
SWART; SW00494; ChtBD2; 1.
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Glycosidase; Hydrolase; Signal.
NON TER 1 20 POTEN
SIGNAL <1 20
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                     Query Match
Best Local Similarity 52.23
Matches 240; Conservative
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TISSUESTONACH, AND LUNG;

XX MEDINES-21125893; PubMed=11085997;

BOOT R.G., Blommaart E.F.C., Swart E., Ghauharali-Van Der Vlugt K.,

Bijl N., Moe C., Place A., Aerts J.M.F.G.;

Bijl N., Moe C., Place A., Aerts J.M.F.G.;

Tidentification of a Novel Acidic Mammalian Chitinase Distinct from Chitorriosidase.";

J. Biol. Chem. 276:6770-6778(2001).

REMBL; AF290004; AAG6019:1; -.

InterPro; IPR001259; Chitinase_18/2.

RICHOFTO; IPR001259; Chitinase_18/2.

RICHOFTO; IPR001259; Chitinase_18/2.

RICHOFTO; IPR001279; Chitinase_18, 1.

RP Fam; PF01607; CBM 14; 1.

RP Fam; PF01607; CBM 14; 1.

RP Fam; PF01607; CBM 14; 1.

RP Fam; PF00704; Glyco_hydro_18; 1.

RP RODOM; P0000471; Glyco_hydro_18; 1.

RP RODOM; P0000471; Glyco_hydro_18; 1.

RP RODOM; P0000471; Glyco_hydro_18; 1.

RP ROSITE; PS01059; CHITINASE_18; UNKNOWN_1.

SIGNAL.

TISIGNAL.
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                                                                                                                                                                                                                                                                                                                                                                22 AKLVCYLTNWSQYRTEAVRFPRDVDPNLCTHVIPAFAGMDNHQLSTVEHNDELLYQELN
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                ;
                                                                                                                                                                                                                                                   Length 396;
                                                                                                                                                                                                                                              55.6%; Score 1334; DB 11; Length 76.4%; Pred. No. 2.9e-95; vative 26; Mismatches 49; Indels
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                                                                                                                                                                                                    396 AA; 43413 MW; 32BB674B61AF7123 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9BZP6 PRELIMINARY; PRT; 476 AA.
Q9BZP6;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2002 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Acidic mammalian chitinase precursor (EC 3.2.1.14).
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              InterPro; IPR000677; 28 Globulin.
InterPro; IPR001279; Chītinase 18/2.
InterPro; IPR001223; Chītinase 18/2.
InterPro; IPR001223; Chītinase 18/2.
PEAM; PR00704; Glyco hydro 18; 1.
PRINTS; PR00551; 28GLOBULIN.
ProDom; PD000471; Glyco hydro 18; 1.
PROSITE; PS01095; CHITINASE 18; 1.
Glycosidase; Hydrolase.
SEQUENCE 396 AA; 43413 MW; 32BB6748
MGD; MGI:1919134; 2300002L19Rik
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Matches 249; Conservative
                                                                                                                                                                                                                                                                      Similarity
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243 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204 LDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVG
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                        "Functional annotation of a full-length mouse cDNA collection.";
Nature 409:685-690(2001).
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL-HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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CBP B04.

CBP sos taurus (Bovine).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54.6%; Score 1309.5; DB 11; Lengt:
51.8%; Pred. No. 3.1e-93;
ive 71; Mismatches 128; Indels
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Last sequence update)
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InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
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Pfam; PF00704; GlyCo hydro 18; 1.
ProDom; PD000471; GlyCo hydro 18; 1.
SMATY; SM00494; ChtBD2; 1.
GlyCosidase; Hydrolase.
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MEDLINE=21475601; PubMed=11591385;
                                                                                                                                                               EMBL; AK008633; BAB25795.1; -. MGD; MGI:1932052; Chia.
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Matches 236; Conservative
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STRAIN=CSTBL/6J; TISSUB-STOWACH;

Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,

Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,

Azakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

Azakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

Azakawa T., Gojobori T., Bono H., Kasukawa T., Saito R.,

Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

Rieschmann W., Gasterland T., Gissi C., King B., Kochiwa H.,

Kuchl. P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

Kuchl. P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

Sakai K., Oxido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

Gustincich S., Hill D., Mashima J., Mazzarelli J., Mombaerts P.,

Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

Sasaki H., Saro K., Wang K.H., Wenizz C., Whittaker C., Wilming L.,

Suzuki H., Toyo-oka K., Wang K.H., Wenizz C., Whittaker C., Wilming L.,

Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                        KKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYPG 122
                                                                                                                                                                                                                                                                                                                                                                           SOGSPAVDKERFITLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQN 182
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                                                                                                                                       Gaps
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                     DB 11; Length 472;
                                                                 54.6%; Score 1309.5; DB 11; Lengt
51.8%; Pred. No. 3.1e-93;
ive 71; Mismatches 128; Indels
51872 MW; FF59088512C8A7F0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
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                                                                                                Best Local Similarity 51.8%;
Matches 236; Conservative 7
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SEQUENCE
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                                                                     Query Match
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InterPro; IPR001223; Glyco_hydro_18
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                                                                                                                                                                                                                                                                    GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                               383 LKDALG--,-LKSATCNAST----QSSEP--NSPGNESGSGNKSSSSEGRGYCAGKADGL 433
                                                                                                                                                                                                                          LKKWNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWBYP 121
                                                                                                                                                                                                      82
                                                                                                                                                                                             GPPAYGHNFILRDASNNGIGAPTSGAGPAGPYTREAGFWAYYEICAFLKDGATEAWDDSQ
                                                                                                                                                                                                                                                                                                                                                                                                             Biology, Waseda University,
                                                                                                                                                                                2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                           LRQELSLPYLPSGTPELEVPKPGQPSEPEHGPSPGQDT------PCQGKADGL
                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bufo japonicus (Japanese toad).
Warzyota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae; K
NCBI_TaxID=8387;
                                                                                                                                                           24;
 A novel serum chirinase that is expressed in bovine liver."; EMBL, AB051629; BAB71805.1; -.
                                                                                                                                      Length 472;
                                                                                                                                      54.4%; Score 1304; DB 6; Length 4
52.2%; Pred. No. 8.2e-93;
.ive 72; Mismatches 123; Indels
Suzuki M., Morimatsu M., Yamashita T., Iwanaga T., Syuto
                                                                     PEam; PF01607; CBM_14, 1.
Pfam; PF01704; Glyco hydro 18; 1.
PROSUTE; PS01095; CHITINASE 18; 1.
SEQUENCE 472 AA; 52129 MW; 7A4A600E8DA04B1E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     407 YPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW
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TISSUB-PANCREAS;
Oshima H.;
Thesis (2001), Department of Department
                                       InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR002557; Chitin_bind_PerA.
InterPro; IPR001223; Glyco_hydro_18.
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EMBL; AJ345054; CAC87888.1; -
InterPro; IPR002086; Aldehydde dehydr.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR002557; Chitin_bind_PerA.
                                                                                                                                                Best Local Similarity 52.2
Matches 239, Conservative
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                                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                       20 KLVCYFTWASQYRPDQGKYVPGNIDPQLCTHLVYAFATWNBHKIAPYEWNDDVLYKQFND 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LKKMNPKLKTLLAIGGWNFGTOKFTDMVATANNROTFVNSAIRFLRKYSFDGLDLDWEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VPY1FRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 RQEL-----SLPYLPSGT-----PELEVPKPGQPSEPEHGPSPGQD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                      Gaps
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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STRAIN=BALB/C; TISSUE=LUNG;
MEDLINE=21125893; PubMed=11085997;
BOOK R.G., Blommaart E.C., Swart E., Ghauharali-Van Der Vlugt
Bijl N., Moe C., Place A., Aerts J.M.F.G.;
"Identification of a Novel Acidic Mammalian Chitinase Distinct f
                                                                                                                                                                                                                                                                                                                      31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---TFCQGKADGLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW
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                                                                                                                                                                                                                                                                    DB 13; Length
                                                                                                                                                                                                                                                                  Query Match
54.3%; Score 1302.5; DB 13; Lengt:
Best Local Similarity 51.0%; Pred. No. 1.1e-92;
Matches 240; Conservative 74; Mismatches 126; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chitotriosidase.";
J. Biol. Chem. 276:6770-6778(2001).
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18
HYDROLASES).
                                                                                                                                                                                    19 488 TOAD PANCREATIC CHITINASE
488 AA; 54319 MW; E75E1AD3CB2B4919 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Acidic mammalian chitinase (EC 3.2.1.14).
473
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175 181

121

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182 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62 LKKOMPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                83 LKNRNPNLKTLLSVGGWNFGSORFSKIASNTOSRRTFIKSVPPFLRTHGFDGLDLAWLYP 142
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQG-RYPL 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 KLYCYYTWWSQYREGNGSCPDALDHSLCTHIIYSFANISNNKLSTSEWNDVTLYGMLNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122 GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23 KLVCYYTSWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLNT
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                                                                                                                                                                                                                                                                                                                                    2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                     DB 11; Length 352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
43.6%; Score 1046.5; DB 4; Length 383;
Best Local Similarity 53.6%; Pred. No. 5.6e-73;
Matches 196; Conservative 66; Mismatches 95; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Similar to chitinase 3-like 1 (cartilage glycoprotein-39).
                                                                                                                                                                                                     Query Match 43.9%; .Score 1053.5; DB 11; Lengt
Best Local Similarity 55.5%; Pred. No. 1.4e-73;
Matches 198; Conservative 63; Mismatches 87; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Strausberg R.;
Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; BC008568; AAH08568.1;
InterPro; IRR001223; Glyco hydro 18.
InterPro; IPR001262; sub_transporter.
Pfam; PF00704; Glyco hydro 18; 1.
ProDom; PB000471; Glyco hydro 18; 1.
PROSITE; PB00217; GlGAR TRANSPORT 2; UNKNOWN 1.
SEQUENCE 383 AA; 42625 MW; 6C9EF133BDC7CZDI CRC64;
                                                                                                                                      CBDE991610AC936C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     383 AA
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01-DEC-2001 (TrEMBLrel. 19, Last seq
01-MAR-2002 (TrEMBLrel. 20, Last anno
PRINTS; PR00551; 2SGLOBULIN.
ProDom; PD000471; Glyco_hydro_18; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                      39391 MW;
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352 3
352 AA;
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NON TER
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          84 KORNSKLKTLLAIGGWNFGTAPFTTWVSTSQNRQTFITSVIKFLRQYGFDGLDLDWEYPG 143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243 MPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQK 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264 FPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDASQE 323
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 LVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNGL
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21; Gaps
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Wendling U., Boots A.M.H., van Eden W.;
Wendling U., Boots A.M.H., van Eden W.;
Cloning of the rat homologue of Human Cartilage glycoprotein-39
potential and an arthritis.";
Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF062038; AAD22610.1;
HSSP; P07254; ICTN.
                                                                                                                                                                                                                                                                                                                                                                                                              DB 11; Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 54.3%; Score 1301.5; DB 11; Lengt
Best Local Similarity 51.5%; Pred. No. 1.3e-92;
Matches 235; Conservative 71; Mismatches 129; Indels
                                                                                                                                                                                                                                                                                                                                           473 AA; 51977 MW; 389D87557BEC0784 CRC64;
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 444
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                            InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001557; Chitin bind PerA.
InterPro; IPR001223; Glyco hydro_18.
Pfam; PF001607; CBM 14; 1.
Pfam; PF001607; CBM 14; 1.
ProDom; PD000471; Glyco hydro_18; 1.
ProDom; PD000494; ChtBD2; 1.
PROSTIE; PS011095; CHTINASE_18; 1.
Glycosidase; Hydrolase.
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InterPro; IPR001223; Glyco hydro 18.
Pfam; PF00704; Glyco hydro 18; 1.
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029411;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last seq
01-MAR-2002 (TrEMBLrel. 20, Last ann
38 kDa heparin-binding glycoprotein.
                                                                                                Created)
                                                                                             01-JUN-2002 (TrEMBLrel. 21,
01-JUN-2002 (TrEMBLrel. 21,
01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 190; Conservative
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                                                                     PRELIMINARY;
                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
TISSUE=MAMMARY GLAND;
                                                                                                                                                   Capra hircus (Goat).
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  382 AVKRSL 387
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                                                                                                                                      BP40 precursor.
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                                                                                                                                                                                                                                                                                                    region."
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                                                                                                                                                                                                                                                                                                                                                 Signal.
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                                                        88 LKTKNPKLKILLSIGGYLFGSKGFHPMVDSSTSRLEFINSIILFLFRNINFDGLDVSWIYP 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QKVPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQGRYPLIQ 358
242 GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTXEGGMLAYYEVCSW-KGATKQRIQDQK 300
                                                                                                                                                  301 VPYIFRDNOWVGFDDVESFKTKVSYLKOKGLGGAMVWALDLDDDFAGFSCNQG-RYPLIQT 359
                                                                                                                                                                   62 LKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122 GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NLDFVNLMAYDFHGSWEK--VTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203 DLDFINLLSFDFHGSWEKPLITGHNSPLSKGWQDRGPSSYYNVEYAVGYWIHKGMPSEKV 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28 KLVCYFTWWSQDRQEPGKFTPENIDPFLCSHLIYSFASIENNKVIIXDKSEVMLYQTINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240 ILGMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTXEGGMLAYYEVCSW-KGATKQRIQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43.4%; Score 1041.5; DB 4; Length 390; 51.9%; Pred. No. 1.4e-72; ive 76; Mismatches 91; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SECUENCE.

SECUENCE.

SERVICENCE (ST. 1)

SUBMITTED (ULL-2001) to the EMBL/GenBank/DDBJ databases.

SUBMITTED (ULL-2001) to the EMBL/GenBank/DDBJ databases.

SUBMITTED (ULL-2001) to the EMBL/GenBank/DDBJ databases.

InterPro. IPR001223; GJyco.hydro.ls.

Pfam: PF00704; GJyco.hydro.ls. 1.

ProDom; PD000471; GJyco.hydro.ls. 1.

PRODENCE 390 AA; 43529 MW; 6801E4AF721AD63F CRC64;

SECUENCE 390 AA; 43529 MW; 6801E4AF721AD63F CRC64;
                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                     390 AA
                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                            01-DEC-2001 (TrEMBLrel, 19, 01-DEC-2001 (TrEMBLrel, 19, 01-MAR-2002 (TrEMBLrel, 20, Chitinase 3-like 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 51,9
Matches 190; Conservative
                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human)
                                                                                                                                                                                                       360 LRQELS 365
                                                                                                                                                                                                                        376 IKDALA 3'81
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                                                                                                                                                                                                                                                                          RESULT 12
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GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW-KGATKQRIQDQK 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VPYATKGNOWVAYDDOESVKNYKARYLKORQLAGAMVWALDLDDPRGTFCGONLTFPLTSA 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23 KLICYYTSWSQYREGDGSCPPDAIDPFLCTHIIYSFANISNNEIDTWEWNDVTLYDTLNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sus scrofa (Pig).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                                                                                                                            Paramasivam M., Saravanan K., Sharma S., Mohanty A.K., Yadav S., Srinivasan A., Singh T.P., "Goat mammary gland mRNA for a novel protein, BP40, complete cod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 6; Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69; Mismatches 98; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AY081150; AAL87007.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIĞNAL 1 16 POTENTIAL.
SEQUENCE 383 AA; 42893 MW; 17655ED4BE4E9FSF CRC64;
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42.9%; Score 1029.5; DB (51.9%; Pred. No. 1.2e-71;
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42.3%; Score 1015.5;
 MEDLINE=20196006; PubMed=10731132;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 53.03
Matches 197; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          116
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VPYIFRDNQWVGFDDVESFKTKVSYLKQKGLGGAMVWALDLDDFAGFSCNQG-RYPLIQT 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              82
                                                                                         Shackelton L.M., Mann D.M., Millis A.J.,
"Identification of a 38-kDa heparin-binding glycoprotein (gp38k) in
differentiating vascular smooth muscle cells as a member of a group of
proteins associated with tissue remodeling.";
J Biol. Chem. 270:13076-13083(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda Tracheata; Hexapoda; Insecta;
Pteryota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23 KLVCYYTSWSQYREGDGSCFPDAIDPFLCTHIIYSFANISNNEIDTLEWNDVTLYDTLNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSQGSPAVDKERFTTLVQDLANAFQQEAQTSGKERLLLSAAVPAGQTYVDAGYEVDKIAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6
                                                                                                                                                                                                                                                                                                                                                                                                                                          42.6%; Score 1021.5; DB 6; Length 383; 52.2%; Pred. No. 4.9e-71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                 Shackelton L.M., Mann D.M., Millis A.J.T.;
Submitted (JAN-1995) to the EMBL/GenBank/DDBJ databases.
EMBL, 119900, TAA86488.1; --
EMBL; Z47803; CAA87764.1; --
                                                                                                                                                                                                                                                                                                                                                                                                        383 AA; 42443 MW; 3D1039F49910BDC4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67; Mismatches
                                                                                                                                                                                                                                                                                                                             InterPro, IPR001223; Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                                                                             MEDLINE=95286589; PubMed=7768902;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 191; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                  TISSUE=SMOOTH MUSCLE;
                                                         MUSCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360 LRQELS 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       376 IKDVLA 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                SEQUENCE FROM N.A
NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                    Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
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                                       SEQUENCE
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Q9VZV2;
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ŝ 셤 ò 셤 ઠે 음 ઠે [1] SEQUENCE FROM N.A.

RESULT 15

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STRAIN=BERKELEY;

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RAMEDINE-ZUISBOUGH, PURMERS-10'1112;

RAM Adams W.D., Celniker S.E., Holt R.A., Fuskins R.A., Galle R.F.,

Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,

George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,

Sutron G.G., Wortern J.R., Yandell M.D., Zhang Q., Chen L.X.

Bardon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfelifer B.D.,

RAM Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,

RAM Beeson K.Y. Bence P.V., Barman B.P., Bhandari D., Bosaley E.M.,

Beeson K.Y. Bence P.V., Barman B.P., Bhandari D., Bosaley E.M.,

RAM Burtis R.C., Busam D.A., Daulter H., Cadieu E., Center A., Chandra I.,

RAM Burtis R.C., Busam D.A., Dahlke C., Davenport L.B., Davies P.,

RAM Burtis R.C., Busam D.A., Dahlke C., Perriac S., Dunkov B.C., Dunn P.,

RAM Goog F. Gorrell J.H., Gu Z., Guan P., Harris M.,

RAM Goog F. Gorrell J.H., Gu Z., Guan P., Harris M.,

RAM Good F. Gorrell J.H., Gu Z., Guan P., Harris M.,

RAM Good F. Gorrell J.H., Gu Z., Guan P., Harris M.,

RAM Hostin D., Houston K.A., Helman T.J., Wei M.-H., Ibegwam C.,

Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J., Lai Z.,

Lasko P., Lei Y., Leviteky A.A., Li J., Li Z., Liang Y., Lin X.,

Alalin M., Malush F., Karpen G.H., Ke Z., Kennison D.,

RAM Murtis M.L., Morincoh T.C., McLeed M.-P., Moshrefi A.,

Mount S.M., Moy M., Murphy B., Murphy L., Murny D.M., Nelson D.L.,

RA Shier K., Saradling A.C., Stapleton M., Strong R., Sun E.,

Sylrakas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,

Wang Z.-Y., Wassarman D.A., Weinstock G.M., Waissenbach J.,

RAM Spier E., Spradling A.C., Stapleton M., Strong R., San K.,

Ramina S.E., Scoreri J.S., Zhong M., Shipsi M., Ship B.C.,

Sylrakas R., Woodsey T., Wulley K.C., Wu D., Yang S., Yao Q., Zhong A.,

Raminam S.M., Worte S.W., Woodsey C., Wu D., Yang S., Yao Q., Zhong A.,

Raminam S.M., Woodsey T., Wannarder S., Wang A.H., Wang C.Y.,

Raminam S.M., Woodsey T., Wulley C., Wu D., Yang S., Zho O., Zhong A.,

Raminam S.M., Woodsey T., Wu D., Wang G., Ship H., Wa
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InterPro; IRR001259; Chitinase 18/2.
InterPro; IRR001223; Glyco hydro 18.
Pfam; PF00704; Glyco hydro 18; 2.
ProDom; PD00471; Glyco hydro 18; 2.
PROSITE; PS01095; CHITION AGE 18; 2.
PROSITE; PS01095; CHITION WI, 6877585837A19CF6 CRC64; SEQUENCE 696 AA; 77366 WM; 6877585837A19CF6 CRC64;
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³⁵³ RYPLIOTLRQEL 364 :|||| :|:|| 480 KYPLIGAMREEL 491

Search completed: June 29, 2003, 21:01:47 Job time: 26.0148 secs

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Claim 1; Page 97-99; 114pp; Japanese
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GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
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Listing first 45 summaries
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Sequence:

Run on

Searched:

Database

## ALIGNMENTS

Disease treatment; infection; chronic occlusive pulmonary disease; bronchial asthma. New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease Disease treatment related protein SEQ ID NO: 1. AAG62541 standard; protein; 455 AA

Result

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WPI; 2001-397791/42
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     used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
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bronchial asthma.
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                                                                                                Length 455;
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                                                                                              100.0%; Score 2506; DB 22;
illarity 100.0%; Pred. No. 1.3e-219;
Conservative 0; Mismatches 0; 1
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                                                                                                                                                                used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
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antiinfertility; cerebroprotective; cytostatic; rheumatic; gene therapy;
neuroprotective; antiparkinsonian; protein therapy; EST;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLKNKNSQLKTLLALGGWNFGTAPFTAMVSTPENRQTF1TSV1KFLRQXEFDGLDFDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         262 VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QEVPYAYQANVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TLKKALGLOSASCTAPAOPIEPITAAPSGSGNGSGSSSSGGSSGFCAVRANGLYPVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           142 PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP
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                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                       a protein which can
proteins, peptides and DNA for treatment of bronchial asthma, paic occlusive lung disease and infectious disease
                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                             Length 476;
                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 2506; DB 22; 100.0%; Pred. No. 1.4e-219;
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                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                    Example 5; Page 101-103; 114pp; Japanese
                                                                                                                                       The present invention provides the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ź
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel human protein SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                  455; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                       476 AA;
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10-SEP-2001; 2001WO-US26015

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                                                                                                                                                                                                                                                                          The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTs). They can be used to stimulate cell growth, to regulate haematopoiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat stroke and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 YKYPTDTGSNAYLINVDYVMNYWKDNGAPAEKLIVGFPTYGHNFILSNPSNTGIGAPTSGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLISTLKKALGLQSASCTAPAQPIEPITAAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLISTLKKALGLQSASCTAPAQPIEPITAAP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SGSGNGSGSSSSGGSSGCGSGFCAVRANGLYPVANNRNAF#HCVNGVTYQQNCQAGLVFDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88 MVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYPGSRGSPPQDKHLFTVLVQEMREAFEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYPGSRGSPPQDKHLFTVLVQEMREAFEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPL
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                                                                                                                                                                                               An isolated polynucleotide for treating diseases associated with its
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                                                                                               Ren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 23; Length 368;
                                                                                                                                                                                                                encoded polypeptide such as cancer and multiple sclerosis
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                                                                                               Zhao QA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80.5%; Score 2018; DB 23;
100.0%; Pred. No. 3e-175;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disease treatment related protein SEQ ID NO: 18
                                                                                             Zhou P, Asundi V, Zhang J,
Wehrman T, Drmanac RT;
                                                                                                                                                                                                                                                Claim 20; SEQ ID NO 848; 509pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAG62545 standard; protein; 377 AA.
                               11-SEP-2000; 2000US-0659671
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                                                                                                                                              WPI; 2002-292408/33.
N-PSDB; ABN32766.
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                                                            (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      368 AA
                                                                                             Liu C,
Yang Y,
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                                                                                             Tang YT,
Xue AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
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Matches
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301 QEVPYAYQGNEWVGYDNVRSFKLKAQWLKDNNLGGAVVWPLDMDDFSGSFCHQRHFPLTS 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 YOLTCYFTNWAQYRPGLGREMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
treatment; infection; chronic occlusive pulmonary disease;
                                                                                                                                                                                                                                                  New proteins, peptides and DNA for treatment of bronchial asthma, chronic occlusive lung disease and infectious disease
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                                                                                                                                                                                                                                                                                                                                                                                                                            Length 377;
                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1417,
Pred. No. 3e-120;
Pred. No. 3e-120;
Trephes 72; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                    48; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1415;
                                                                                                                                                                                                                                                                                         Claim 18; Page 110-112; 114pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                            56.5%;
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                                                                                                                                              99JP-0324467
                                                                                                                                                                                                                                                                                                                                                                                                                                          68.1%;
                                                                                                                                                                     (TAKE ) TAKEDA CHEM IND LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                        WPI; 2001-397791/42
                                                                                                                                                                                                                                                                                                                                                                                                  377 AA;
             bronchial asthma
                                                               WO200136633-A1
                                                                                                                                                                                               Nakanishi A,
                                                                                                                                              15-NOV-1999;
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                                                                                         25-MAY-2001
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Human chitinases of 50 kba (AAW08584) and 39 kba (AAW08585) are stable to many proteases, active at pH 3-8 and up to 50 deg, and stable in the circulation. They are the result of alternative splicing of RNA, and can be produced on a large-scale in transformed host cells using cDNA clones (see also AAT50833-34) obtd. from a human macrophage library. The chitinases, optionally expressed from a gene therapy vector, are used to treat or prevent infection by chitin-conting pathogens (e.g. fungi, protozoa, helminths) and more generally to degivery, in cosmetics, foods and dental products, for antibody product and for diagnosis of diseases associated with elevated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QLTCYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62 LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEPDGLDFDWEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New numan chitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                         gene therapy, vaccine; diagnosis; lysosomal lipidosis;
Gaucher disease; leishmaniasis; sarcoidosis; multiple sclerosis;
X-linked adrenoleukodystrophy; drug delivery; cosmetics; food.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   52.2%; Score 1323; DB 18; Length 466; 52.2%; Pred. No. 1e-111; ive 70; Mismatches 126; Indels 24;
                                                                          Chitinase; chitotriosidase; chitin; infectious disease;
                                                                                                                                                                                                                                                               178..198
/label= Catalytic_domain
                                                                                                                                                                                                                                             /label= Sig peptide
                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 40-42; 58pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                   95US-0486839
                                                                                                                                                                                                                                                                                                                                                                                              96WO-NL00225
 (first entry)
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                                       Human 50 kDa chitinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1997-118698/11.
N-PSDB; AAT50833.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               chitinase levels
 24-MAR-1997
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                                                                                                                                                                                                                                                                                                                        WO9640940-A2
                                                                                                                                                                       Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                           19-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aerts JMFG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                 Domain
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 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is a protein described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82 GLKDKNTELKTLLAIGGWKFGPAPFSAMVSTPQNRQIFIQSVIRFLRQYNFDGLNLDWQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YQLTCYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22 YQLMCYYTSWAKDRPIEGSFKPGNIDPCLCTHLIYAFAGMONNEITYTHEQDLRDYEALN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202 QSLDYIQVMTYDLHDPKDGYTGENSPLYKSPYDIGKSADLNVDSIISYWKDHGAASEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VGFPTYGHNFILSNPSNTGIGAPTSGAGPAAKESGIWAYYEICTFLKNGATQGWDAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            262 VGFPAYGHTFILSDPSKTGIGAPTISTGPPGKYTDESGLLAYYEVCTFLNEGATEVWDAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                   Disease treatment; infection; chronic occlusive pulmonary disease;
                                                                                                                                                                                                                                                                                                                                                                                              New proteins, peptides and DNA for treatment of bronchial asthma chronic occlusive lung disease and infectious disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 56.5%; Score 1415; DB 22; Best Local Similarity 68.1%; Pred. No. 3.3e-120; Matches 256; Conservative 48; Mismatches 72;
related protein SEQ ID NO: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 108-110; 114pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW08584 standard; Protein; 466 AA.
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                                                                                                                                                                                                        14-NOV-2000; 2000WO-JP08015
                                                                                                                                                                                                                                               99JP-0324467
                                                                                                                                                                                                                                                                                   (TAKE ) TAKEDA CHEM IND LTD
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                                                                                                                                                                                                                                                                                                                        Morita S;
                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-397791/42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         398 AA;
                                                      bronchial asthma
                                                                                                                              WO200136633-A1
                                                                                                                                                                                                                                                                                                                        Nakanishi A,
                                                                                                                                                                                                                                             15-NOV-1999;
                                                                                                                                                                     25-MAY-2001
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and thus of their side effects.
                                                                                 Local Similarity
                                 466 AA
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                                 Sequence
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                                                               Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This sequence represents a novel human chitinase isolated from clone MO-218. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents,
                                                                  361
                                                                                  263 GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKORIODO 320
                                                                                                                                  362 LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSGGSSGGSGFCAVRAN 414
                                                                                                                                                                   381 LRQELSLPYLPSGTPELEVPKPGQPSEP------EHGPSPGQDTFCQGKAD 425
242 GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATOGWDAPQ 301
                                                                 302 EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
                                                                                                                                                                                                                        GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1..21
//dabel= signal
22..46
/label= chitinase
/note= "from clone MO-218"
                                                                                                                                                                                                                                                                                                                                                                                                                          Human chitinase protein from clone MO-218.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                       AAW40259 standard; Protein; 466 AA
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                                                                                                                                                                                                     415
                                                                                                                                                                                                                                                                                                                                                     AAW40259;
                                                                                                                                                                                                                                   426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gray PW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ 181
                                                                                                                                                                                                                                                                                                                                                 182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GFPTYGHNF1LSNPSNTG1GAPTSGAGPAGPYAKESG1WAYYE1CTFLKNGATQGWDAPQ 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362 LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGFCAVRAN 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              381 IRQELSLPYLPSGTPELEVPKPGQPSEP------EHGPSPGQDTFCQGKAD 425
                                                                                                                                                                                                              62 LKOKKUSQLKTLLAIGGWNFGTAPFTAMVSTPENROTFITSVIKFLRQYEFDGLDFDWEYP 121
                                                                                                                                       2 QLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITIIEWNDVTLYQAFNG 61
                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         chitin; fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; chitin binding region.
                                                      24;
        Length 466;
52.8%; Score 1323; DB 19; Length 52.2%; Pred. No. 1e-111; ive 70; Mismatches 126; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MO-218 clone of human Chitinase, amino acid sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               391..445
/label= Chitin binding
/note= "Chitin binding region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22..445
/label= Mature protein
/note= "Human Chitinase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1..21
/label= Signal_peptide
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                                                         Matches 240; Conservative
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98US-0039198

12-MAR-1998;

(ICOS-) ICOS CORP.

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This is the amino acid sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear homo polymer of beta-1,4-linked N-acetylglucosamine residues).

The sequence also includes a Chitin binding peptide region, which lacks any chitinase activity, but which can be used to target anti-fungal agents to chitin containing fungal cells.

Chitinase tragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for chitinase, polynucleotide fragments of the invention and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, when conjugated to antifungal compounds, are used to tract animals, conjugated to antifungal compounds, are used to tract animals, especially humans, infected with chitin-containing parasites such as fungil. Fungal infection treated include candidiasis, aspergillosis, and compounds, are used disidenced to track animals.

Coccidicidonycosis, blastcomycosis, paracoccidicidonycosis, concurrenced to track animals.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62 LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       381 LRQELSLPYLPSGTPELEVPKPGQPSEP------EHGPSPGQDTFCQGKAD 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mucormycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, and dermatophytoses. Chitin can be degraded by the enzyme chitinase. Use of whole chitinase
                                                                                                                                                                                                   chitin-binding fragments of human chitinase used to treat fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life-threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKKAL------GLOSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSGFCAVRAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52.2%; Score 1323; DB 20; Length 466; 52.2%; Pred. No. 1e-111; ive 70; Mismatches 126; Indels 24
                                                                                                                                                                                                                                                                    Example 1; Page 58-59; 83pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 52.2
Matches 240; Conservative
                                                                                        Tjoelker LW;
                                                                                                                                                                                                                          infections in animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        466 AA;
                                                                                                                                                       N-PSDB; AAZ21847.
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                                                                                        Gray PW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
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Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                             Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiasis; aspergillosis; coccidioidomycosis; blastcomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses; clone pMO-218.
                                                                                                                                                                                                                                                                                                  1..373
/note= "Region with triacetylchitotriose hydrolysing
                                                                                                                                                                                                                                                                                                                                                                                                                                          Steiner BH;
                                                                                                                                                                                                                                                /label= Signal_peptide
22..466
/label= Human_mature_chitinase_protein
          426 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW
415 GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW
                                                                                                                                                                                                                                                                               418..466
/label= Chitin_binding_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                          Shaw KD,
                                                                                                                             Human chitinase protein from clone pMO-218,
                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                          Gray PW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1, Page 32-33; 39pp; English.
                                                                   AAE00432 standard; Protein; 466
                                                                                                                                                                                                                                                                                                                                                                                 28-SEP-2000; 2000WO-US26960
                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                       activity"
                                                                                                                                                                                                                                                                                                                                                                                                                                          Dietsch GN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-266141/27.
N-PSDB; AAD03759.
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                                                                                                                                                                                                                                                                                                                                         WO200123430-A2
                                                                                                                                                                                                                                                                                                                                                                                                    30-SEP-1999;
                                                                                                                                                                                                            Homo sapiens
                                                                                                          19-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                          Allison DS,
                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                           Protein
                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                   Region
                                                          AAE00432
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The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidiasis, aspergillosis, blastomycosis, coccidiolomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblasformycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing protein is also useful for preparing continuous. Chitinase immunoglobulin fusion product has unexpectedly infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties.

The present sequence is human chitinase protein from clone pMO-218. Chitinase enzyme degrades chitin which is a homopolymer of chitinase enzyme degrades chitin which is a homopolymer of person sequence.

142

61 82

Gaps

24;

202 241 301

466 AA;

Sequence

Query Match Best Local

Matches

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LKKMNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62 LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGFCAVRAN 414
                                                                                                                                                                                                              The present sequence is the protein sequence of human chitinase as predicted from isolated cDNA clone MO-218 (see ABL57380). It can fifted in only 1 amino acid residue from the chitinase sequence (see ABB76292) deduced from a second cDNA clone, having glycine at position 81 of the mature protein. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against pathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products, which are expected to be useful as products for treating fungal continuates has a synergistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidiasis, aspergillosis, coccidioidomycosis, blastomycosis, paracoccidioidomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, cryptococcous spp., whose growth is not effectively in thibited by contact with human chitinase alone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GPPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ
                                                                                     Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidias1s, coccidioidomycosis and blastomycosis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52.2%; Score 1323; DB 23; Length 466; 52.2%; Pred. No. 1e-111; ive 70; Mismatches 126; Indels 24.
                                                                                                                                                                               Claim 1; Column 27-30; 26pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 52.2
Matches 240; Conservative
                  WPI; 2002-442449/47.
N-PSDB; ABL57380.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               466 AA;
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                                                                                                                                                                                                                                                                                                                    LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP 121
                                                                                                                                                                                                                                               LKKWNPKLKTLLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 142
                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                    YLDYIHVMTYDLHGSWEGYTGENSPLYKYPIDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 241
                                                                                                                                                                                                                                                                                                                                                                                                              EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          381 LRQELSLPYLPSGTPELEVPKPGQPSEP------EHGPSPGQDTFCQGKAD 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             362 LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSGCAVRAN 414
                                                                                                             61
                                                                                                                                                       82
                                                                                                                                                     KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG
                                                                                                                                                                                                                                                                                              GSRGSPPODKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSO
                                                                                                          2 QLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
                                                               24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chitinase; enzyme; human; fungicide; antifungal; infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis;
                  Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    426 GLYPNPRERSSFYSCAAGRLFQOSCPTGLVFSNSCKCCTW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       415 GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW
                52.8%; Score 1323; DB 22; 52.2%; Pred. No. 1e-111; iive 70; Mismatches 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= Signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB76291 standard; Protein; 466 AA
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                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22..466
/label= N
                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human chitinase. '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JS6372212-B1
                                                           240;
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83

143

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62

181

82

Gaps

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301

361

GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465 GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW

415 426

97US-0877599

Key Peptide

Protein

ABB76291

RESULT 10 ABB76291 14-JUN-1996;

Gray PW

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203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 262
                                                                                                                GFPTYGHNFILSNPSNTGIĞAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ 301
                                                                                                                                                                              EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST 361
                                                182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This is the amino acid sequence of an allelic form of the human chicinisase enzyme, which is capable of degrading Chitin (a linear home polymer of beat-1.4-linked N-acetylglucosamine residues). The sequence also includes a Chitin binding peptide region, which lacks any chitinase activity, but which can be used to target anti-fungal agents to chitin containing fungal cells. Chitinase fragments can be used to screen for proteins or other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel chitin-binding fragments of human chitinase used to treat fungal
                                                                                                                                                                                              362 LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGSGFCAVRAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   chitin; fungal infection; immunocompromised; AIDS; chemotherapy; organ transplant; parasite; chitin-binding; allele; vector; truncated protein; chitin binding region.
                                                                                                                                                                                                                                                                                                           415 GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                 426 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MO-13B clone of human Chitinase, amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1..21
/label= Signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22..466
/label= Mature protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example 1; Page 62-64; 83pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                          AAY42426 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US05343.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gray PW, Tjoelker LW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-551417/46.
N-PSDB; AAZ21848.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9946390-A1
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                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY42426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
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                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents a novel human chitinase isolated from clone MO-13B. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The mucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other and thus of their side effects.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122 GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRONNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                             Chitinase, human, fungal infection; immunogen, diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52.6%; Score 1317; DB 19; Length 466; 52.0%; Pred. No. 3.6e-111; rative 70; Mismatches 127; Indels 24;

    useful as antifungal
other antifungals

                                                                                                                                                                                                                                                                                                           22..466
/label= chitinase
/note= "from clone MO-13B"
                                                                                                                                Human chitinase protein from clone MO-13B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nucleic acids encoding human chitinase agents, especially in combination with
                                                                                                                                                                                                                                                              Location/Qualifiers
                                   AAW40260 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 7; Page 44-45; 63pp; English.
                                                                                                                                                                                                                                                                                           /label= signal
                                                                                                                                                                                                                                                                                                                                                                                                                                         97WO-US10460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96US-0663618
                                                                                               (first entry)
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Matches 239; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1998-052316/05.
N-PSDB; AAV10436.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ICOS-) ICOS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               466 AA;
                                                                                                  15-JUN-1998
                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                           WO9747752-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                         16-JUN-1997;
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                                                                 AAW40260;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gray PW;
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   RESULT 11
                    AAW40260
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82
             chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for detection and quantification of chitinase. Polymucleotide fragments of the invention are useful as source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungi. Fungal infection tread include candidiasis, aspergillosis, cocidioidomycosis, blastomycosis, paracoccidioidomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis,
that specifically bind to the chitin-binding domain of human
                                                                                                                                                                                                                          whole chitinase
                                                                                                                                                                                                  eporotichosis, and dermatophytoses.
Chitin can be degraded by the enzyme chitinase. Use of whole chitinase protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life- threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSCRCAVRAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GPPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST
                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                      24;
                                                                                                                                                                                                                                                                                                                                                                                                 52.6%; Score 1317; DB 20; Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCTW 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW
                                                                                                                                                                                                                                                                                                                                                                                                               52.0%; Pred. No. 5.2.
Live 70; Mismatches 127;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 239; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                            466 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             415
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                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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BH;

Steiner

Shaw KD,

PW,

Gray

Š

Dietsch

Allison DS,

(ICOS-) ICOS CORP

30-SEP-1999;

WPI; 2001-266141/27.

N-PSDB; AAD03760

'note= "Region with triacetylchitotriose

hydrolysing activity"

WO200123430-A2

28-SEP-2000; 2000WO-US26960

/label= Human_mature_chitinase_protein

1..21 /label= Signal_peptide

Protein Peptide

Domain Region

Location/Qualifiers

Homo sapiens

'label= Chitin_binding_domain

.466

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ij.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               product, comprising human chitinase fused to at least a portion of an infemnoalobulin chain. The fusion product is useful for treating fungal infemnoalobulin chain. The fusion product is useful for treating fungal coccidioidomycosis, paracoccidioidomycosis, histoplasmosis, blastomycosis, cryptococcosis, chromoblastcmycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoalobulin fusion product has unexpectedly improved serum half-life and formulation properties.

Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
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                                                                                                                                                                                                                                                                                                                                                                                                                             Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   present invention relates to a chitinase immunoglobulin (Ig) fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVWNYWKDNGAPAEKLIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52.6%; Score 1317; DB 22; Length 466; 52.0%; Pred. No. 3.6e-111; ive 70; Mismatches 127; Indels 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 36-38; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    al Similarity 52.0
239; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           466 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
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셤
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Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiaals; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidiodomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;

clone pMO-13B

Human chitinase protein from clone pMO-13B.

(first entry)

19-JUN-2001

AAE00433

AAE00433 standard; Protein; 466

301

---EHGPSPGODTFCOGKAD 425

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GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ
                            LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSGFCAVRAN
                                                                                        EVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence is the protein sequence of human chitinase as predicted from isolated cDNA clone MO-13B (see ABL57378). It differs in only 1 amino acid residue from the chitinase sequence (see ABR76291) deduced from a second cDNA clone, having serine at position 81 of the mature protein. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against pathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products, which are expected to be useful as products for treating fungal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chitinase; enzyme; human; fungicide; antifungal; infection; acadidiatals; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        drugs e.g. amphotericin B or itraconazole, useful for treating fur infections e.g. candidiasis, coccidioidomycosis and blastomycosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Co-administering chitinase to improve the effectiveness of drugs e.g. amphotericin B or itraconazole, useful for treat
                                                                                                                                                                                                                                                                                                   GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
                                                                                                                                                                                                                                                                       GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Signal_peptide
22..466
/label= Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; Column 33-36; 26pp; English
                                                                                                                                                                                                                           381 LRQELSLPYLPSGTPELEVPKPGQPSEP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB76292 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97US-0877599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96US-0663618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-AUG-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-442449/47.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US6372212-B1
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                                              263
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182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                             LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       263 GMPIYGRSFTLASSSDTRVGAPATGSGTPGPFTKGGGMLAYYEVCSW--KGAIKQRIQDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LKKAL-----GLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGCTAVRAN
                                                                                                                                                                                                                                                                                                                           2 QLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRONNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EVPYAYQGNVWVGYDNIKSFDIKAQMLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIST
                                                                                                                                                                                                                                                                                         Gaps
          chitinase has a syneggistic effect on the actions of other fungicides. It can be administered to improve the antifungal activity of a non-chitinase antifungal agent, especially amphotericin B or itraconazole, in the treatment of a fungal infection such as candidasis, aspergillosis, coccidioidomycosis, blastomycosis, chromoblasticmycosis, histoplasmosis, cyptococcosis, chromoblasticmycosis, sporotrichosis, mucormycosis, dermatophytoses and Pneumocystis infections (all claimed). In particular, the fungal infection involves Candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chitotriosidase, tissue remodelling disorder, diagnosis, therapy; rheumatoid arthritis, atherosclerosis; human.
                                                                                                                                                                                                                                                                                         24;
                                                                                                                                                                                                                                                        Length 466;
                                                                                                                                                                                                                                                                                         Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        426 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
infections or for the development of such products.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW
                                                                                                                                                                                                                                                      52.6%; Score 1317; DB 23;
52.0%; Pred. No. 3.6e-111;
live 70; Mismatches 127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW31498 standard; Protein; 466
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                                                                                                                                                                                                                                                                      Best Local Similarity 52.0
Matches 239; Conservative
                                                                                                                                                                                                                         466 AA;
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Misc-difference
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202

181

121

82

262

301

380

414

fungicidal

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21-MAR-1997;
                                                    29-MAR-1996;
09-0CT-1997
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96US-0014295.

97WO-US05072

(HUMA-) HUMAN GENOME SCI INC. (SMIK ) SMITHKLINE BEECHAM CORP.

Thotakura NR; Ni J, Chopra A, Gentz R, Kirkpatrick RB,

WPI; 1997-503041/46. N-PSDB; AAT89181.

New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g. rheumatoid arthritis

Disclosure; Page 22-24; 34pp; English

This protein comprises a variant of human chitotriosidase (see also AAW31497). Its amino acid sequence was deduced from the coding sequence of a full-length cDNA clone (see AAT89181). The following are claimed: (1) a mucleic acid sequence encoding chitotriosidase: (2) a method of diagnosing a tissue remodelling chitotriosidase: (3) a method of diagnosing a tissue remodelling (3) a method of detecting altered expression of a chitotriosidase protein continual and host comprising contacting a bodily sample with an antibody. Chitotriosidase can degrade extracellular matrix antibody. Chitotriosidase can degrade extracellular matrix continual and contacting a bodily sample with an energy of tissue remodelling disorders such as rheumatoid carbutits or atherosclerosis.

466 AA Sequence

Gaps 24; Length 466; Indels 52.5%; Score 1316; DB 18; 52.0%; Pred. No. 4.4e-111; tive 70; Mismatches 127; Query Match 52.5 Best Local Similarity 52.0 Matches 239; Conservative

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61 2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG ઠે 品

LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENROTFITSVIKFLRQYEFDGLDFDWEYP 121

62

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GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 415

LRQELSLPYLPSGTPELEVPKPGÓPSEP-

381

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426

-----EHGPSPGODTFCQGKAD 425

June 29, 2003, 20:59:41 Search completed: June ; Job time : 31.2885 secs

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TYPE: PRT
ORGANISM: Homo sapiens
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Best Local S
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Sequence 1, Appl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 17,
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Sequence 35,
Sequence 38,
Sequence 21,
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Sequence 2,
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1: /cgn2_6/ptodata/1/pubpaa/USOB NEW PUB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/PCT NEW FUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/USOF NEW FUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/USOF NEW PUB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/USOF NEW PUB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/USOF PUBCOMB.pep:*

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10: /cgn2_6/ptodata/1/pubpaa/USOF NEW PUB.pep:*

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Compugen Ltd.
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US-10-004-219B-1
US-10-004-219B-9
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US-10-12B-743-41
US-10-21B-743-41
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GenCore version
Copyright (c) 1993 - 2003
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Maximum Match 100%
Listing first 45 summaries
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104.5
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    7         98         3.9         1013         9 US-10-176-918-38         Sequence 38.           98         3.9         1013         9 US-10-176-918-38         Sequence 38.           98         3.9         1013         9 US-10-147-918         Sequence 38.           98         3.9         1013         9 US-10-147-918         Sequence 38.           98         3.9         1013         9 US-10-143-11-38         Sequence 38.           3         98         3.9         1013         9 US-10-142-431-38         Sequence 38.           4         98         3.9         1013         9 US-10-142-431-38         Sequence 38.           5         98         3.9         1013         9 US-10-142-43-38</td></t<> <td>1         98         3.9         1001         9 US-10-046-433-40         Sequence 40, 28           2         98         3.9         1013         9 US-10-028-072-38         Sequence 38, 29           4         98         3.9         1013         9 US-10-121-049-38         Sequence 38, 29        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     9 US-10-028-038         Sequence           4         98         3.9         1013         9 US-10-121-049-38         Sequence           5         98         3.9         1013         9 US-10-140-470-38         Sequence           6         98         3.9         1013         9 US-10-176-918-38         Sequence           8         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-137-865-38         Sequence           9         3.9         1013         9 US-10-147-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013       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1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-137-865-38         Sequence           9         3.9         1013         9 US-10-147-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-1</td></t<>	1         98         3.9         1001         9 US-10-046-433-40         Sequence           2         98         3.9         1013         9 US-10-028-038         Sequence           4         98         3.9         1013         9 US-10-121-049-38         Sequence           5         98         3.9         1013         9 US-10-140-470-38         Sequence           6         98         3.9         1013         9 US-10-176-918-38         Sequence           8         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-176-918-38         Sequence           9         3.9         1013         9 US-10-137-865-38         Sequence           9         3.9         1013         9 US-10-147-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-142-431-38         Sequence           9         3.9         1013         9 US-10-1

## ALIGNMENTS

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GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
Sequence 14, Application US/10004219B
Publication No. US20030087414A1
GENERAL INFORMATION:
APPLICANT: Macrozyme
APPLICANT: Macrozyme
APPLICANT: Boot, FOIF G.
APPLICANT: Boot, FOIF G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: which mucus is involved or infection diseases in
TITLE OF INVENTION: Which mucus is involved or infection diseases
FILE REFERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
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100.0%; Pred. No. 6e-204;
iive 0; Mismatches 0
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LOCATION: (1):.(455)
OTHER INFORMATION: /note="Human AMCase"
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Sequence 2,

US-09-738-363-2

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RESULT 3
US-10-004-219B-9
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Sequence 1, Application No. US20030087414A1

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Macrozyme

APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: use in therapy or prophylaxis against diseases in FILE REFERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B

CURRENT FILING DATE: 2001-11-02

NUMBER OF SEQ ID NOS: 14

SEQ ID NOS: 14

SEQ ID NOS: 14
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                                                                                    241 VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP
                     181 QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
                                                                  VGPPTYGHNFILSNPSNTGIGAPTSGAGPAAKESGIWAYYEICTFLKNGATQGWDAP
                                                                                                                                    QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS
                                                                                                                                                                                                                            361 TLKKALGLQSASCTAPAQPIEPITAAPSGSGNGSGSSSGGGSGGGGCFCAVRANGLYPVA
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                                                                                                                                                                                                                                                                           NNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNWA 455
                                                                                                                                                                                                                                                                                              NNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNWA 455
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ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                   Sequence 9, Application US/10004219B
Publication No. US20030087414A1
GENERAL INFORMATION:
APPLICANT: Macrozyme
APPLICANT: Boct, Rolf G.
APPLICANT: Boct, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and TITLE OF INVENTION: its use in therapy or prophylaxis against diseases iTITLE OF INVENTION: which mucus is involved or infection diseases FILE REFERENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT APPLICATION NUMBER: 201-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PATENTIN Ver. 2.1
                                   181 KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
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361 TLKKALGLQSASCTAPAQPIEPITAAPSGSGNGSGSSSGGSSGGSGFCAVRANGLYPVA
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81.3%; Pred. No. 1.1e-168;
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COCATION: (1)..(452)
COTHER INFORMATION: /note="Mouse AMCase"
US-10-004-219B-9
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Matches 369; Conservative
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APPLICANT:
APPLICANT:
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APPLICANT:
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Best Local 9
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APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
TITLE OF INVENTION: its use in therapy or prophylaxis against diseases in
TITLE OF INVENTION: which mucus is involved or infection diseases
                                                   APPLICANT: Macrozyme APPLICANT: Macrozyme APPLICANT: Macrozyme APPLICANT: Aerts, Johannes M.F.G.
APPLICANT: Aerts, Johannes M.F.G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and TITLE OF INVENTION: its use in therapy or prophylaxis against diseases in TITLE OF INVENTION: which mucus is involved or infection diseases in FILE REFRENCE: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEO ID NOS: 14
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ص
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Publication No. US20030087414A1
GENERAL INFORMATION:
Sequence 4, Application US/10004219B
Publication No. US20030087414A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                        ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                           SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 4
LENGTH: 473
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Best Local Similarity 81.34
Matches 369; Conservative
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US-10-004-219B-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242 GMPTYGRSFTLASSSDTRVGAPATGSGTPGPPTKEGGMLAYYEVCSW--KGATKQRIQDQ
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                                                                                                                                                                                                                                                                                                                                                                    Length 445;
                                                                                                                                                                                                                                                                                                                                                               52.8%; Score 1323; DB 9; Length 4
52.2%; Pred. No. 8.5e-104;
tive 70; Mismatches 126; Indele
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        454
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                                                                                                                                                                                                                                        ; LOCATION: (1)..(445)
; OTHER INFORMATION: /note="Human chitotriosidase"
US-10-004-219B-10
                         US/10/004,219B
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FILE REFERENCE: 2183-5136US
GURRENT APPLICATION NUMBER: US/10/1
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 10
LENGTH: 445
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Sebastian HOERSCH
Shubhangi KAMATKAR
Steve G. KOVATS
Rachel E. MEYERS
Michael MORRISEY
Peter OLANDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gordon B. MILLS
Robert C. BAST, Jr.
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Xumei ZHAO
Karen GLATT
                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 52.28
Matches 240; Conservative
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                                                                                                                                                                                           ORGANISM: Homo sapiens
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359 361

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SOFTWARE: Patentin Ver. 2.1
                                                                        scrofa
                                                      ; TYPE: PRT
; ORGANISM: Sus
US-09-459-749D-17
                                         LENGTH: 383
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                    SEQ ID NO 17
                                                                                                                                                                                                                                                                                                                                                121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQG-KFPLI 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09
TITLE OF INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer FILE REFERENCE: MRI-030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
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TITLE OF INVENTION: Compositions and Methods For Altering Cell Migration FILE OF INVENTION: COMPOSITION WHERE: 0794.016A
CURRENT APPLICATION NUMBER: US/09/459,749D
PRIOR APPLICATION NUMBER: 60/111,856
PRIOR PILING DATE: 1998-12-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 YKLVCYYTSWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
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39.0%; Score 976.5; DB 9; Length
Best Local Similarity 51.2%; Pred. No. 1.5e-74;
Matches 188; Conservative 62; Mismatches 108; Indels
                                                    CURRENT APPLICATION NUMBER: US/10/097,340 CURRENT FILING DATE: 2002-03-14
                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 363
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 45
                                                                   CURRENT FILING DATE: 2002-03-14
PRIOR APPLICATION NUMBER: 60/276,025
PRIOR PILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 60/325,149
PRIOR FILING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-14
PRIOR FILING DATE: 2001-03-14
PRIOR PILING DATE: 2001/09/26
PRIOR APPLICATION NUMBER: 60/311,732
PRIOR PILING DATE: 2001-09-16
PRIOR FILING DATE: 2001-09-16
PRIOR FILING DATE: 2001-09-16
PRIOR FILING DATE: 2001-09-16
PRIOR FILING DATE: 2001-09-19
PRIOR FILING DATE: 2001-09-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-459-749D-17; Sequence 17, Application US/09459749D Patent No. US20020136716A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STLKKAL 366
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NAIKDAL 380
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APPLICANT: HUNCEALLON:
APPLICANT: HUNCEALLON:
APPLICANT: HUNCEALLON:
TATLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION: AND USES THEREOF
TITLE OF INVENTION NUMBER: US/10/218,743
CURRENT PLIING DATE: 1999-04-15
PRIOR PILING DATE: 1999-04-15
PRIOR PILING DATE: 1999-04-15
PRIOR PLIING DATE: 1998-09-02
PRIOR PLIING DATE: 1998-09-03
PRIOR FILING DATE: 1998-04-17
PRIOR PLIING DATE: 1998-04-17
PRIOR PLIING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
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                                                                                                                                                                                                                                                              142 PGRR-----DKRHLTILVKEMKAEFVREALP-GTERLLLSGAVSAGKVAIDRGYDIAQIS 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQG-KFPLI 359
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                                                                                                                   1 YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                              Gaps
                                                           6
     Length 383;
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  38.6%; Score 968.5; DB 10; Length
51.5%; Pred. No. 7.2e-74;
ive 57; Mismatches 112; Indels
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Pred. No. 5.8e-52;
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US-10-218-743-41
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NUMBER OF SEQ ID NOS: 49
SOFTWARE: Patentin Ver. 2.0
Query Match
Best Local Similarity 51.5<sup>1</sup>
Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5-10-218-743-41
Sequence 41, Application
Publication No. US2003009
GENERAL INFORMATION:
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Best Local Similarity
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DGLDFDWEYPGSR-GSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNI 170
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                                                                                                                                                                                                                                                                                                                                                                                                                        386 -HCGP-KYPLLNKVHNMINGDEKNSYECLLGPSTTTPT-PTTPSTTS 429
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28.4%; Score 711.5; DB 9; Length 5
Best Local Similarity 36.4%; Pred. No. 6.1e-52;
Matches 148; Conservative 74; Mismatches 152; Indels
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Publication No. US20030096779A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Dermatophagoides farinae
US-10-218-743-38
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TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS TITLE OF INVENTION: AND UBES THEREOF
FILE REFERENCE: AL-2-03
CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 2002-08-13
FRIOR APPLICATION NUMBER: US/09/292,225
FRIOR APPLICATION NUMBER: US/09/292,225
FRIOR APPLICATION NUMBER: 00/089,99
FRIOR PILING DATE: 1998-06-13
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR PILING DATE: 1998-09-13
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR PILING DATE: 1998-04-17
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR APPLICATION NUMBER: 00/085,295
FRIOR PILING DATE: 1998-04-17
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                                                                                                                                                                                                                               DGLDFDWEYPGSR-GSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNI 170
                                                                                                                                      DVTLYQAFNGLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEF 111
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                                                                        QSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGS-NAYLNVDYVMNYW
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                                           2 OLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWN------
  Gaps
  33;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWN--
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74; Mismatches 152; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           , ORGANISM: Dermatophagoides farinae
US-10-218-743-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 35, Application US/10218743
Publication No. US20030096779A1
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148; Conservative
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LENGTH: 509
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Matches
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APPLICANT: McCall, Catherine A.
APPLICANT: McCall, Catherine A.
APPLICANT: Hunter, Shirley Wu
APPLICANT: Henter, Shirley Wu
APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT APPLICATION NUMBER: US/09/292,225
PRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1998-09-02
PRIOR FILING DATE: 1998-05-03
PRIOR FILING DATE: 1998-05-03
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
COFTWARE: PatentIn Ver. 2.0 DGLDFDWEYPGSR-GSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNI 170 171 QSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGS-NAYLNVDYVMNYW 229 :||| :|| :| || || || 3.5 289 LKNGATQGWDAPQEVPXAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTG 348 326 QKEEWHIQYDEYYNAPYGYNDKIWVGYDDLASISCKLAFLKELGVSGVMIWSLENDDFKG 385 171 QSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGS-NAYLNVDYVMNYW 229 230 KDNGAPAEKLIVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEIC-TF 288 34 RIVCYVGTWSVYHK-VDPYTIEDIDPPKCTHLMYGFAKIDEYKYTIQVFDPRQDDNHNSW 92 2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWN------ 51 52 DVTLYQAENGLKNKNSQLKTLLAIGGMNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEF : |- |- |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || |- || DGLDLDWEYPGSRLGNPKIDKQNYLTLVRELKEAFEPFG-----YLLTAAVSPGKDKI

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SEQ ID NO 15
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Publication No US20030096779A1

GENERAL INPORMATION:

APPLICANT: Mocall, Catherine A.

APPLICANT: Hunter, Shirley Wu

APPLICANT: Hunter, Shirley Wu

APPLICANT: Weber, Exic R.

TITLE OF INVENTION: AND USES THEREOF

TITLE OF INVENTION: AND USES THEREOF

TITLE OF INVENTION: AND USES THEREOF

FILE REFERENCE: AL-2-C3

FURRENT APPLICATION NUMBER: US/10/218,743

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SEQ ID NO 21

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                                    266 INNGATRDKLVMGVPFYGRAMSIEDRSKVKLGDPAKGMSPPGFITGEEGVLSYIELCQLF 325
                                                                                                                                                          326 QKEEWHIQYDEYYNAPYGYNDKIWVGYDDLASISCKLAFLKELGVSGVMIWSLENDBFKG 385
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                                                                                                                         LKNGATQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTG
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                                                                                                                                                                                                                                                   349 TFCNQGKFPLISTLKKALG------LOSASCTAPAQPIEPITAA 386
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APPLICANT: McCall, Catherine A.
APPLICANT: McCall, Catherine A.
APPLICANT: Hunter, Shirley Wu
APPLICANT: Henter, Shirley Wu
TITLE OF INVENTION: NOVEL DERMATOPHACOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL2-C3
CURRENT APPLICATION NUMBER: US/10/218,743
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PRIOR PRILICATION NUMBER: 60/098,565
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367 -HCGP-KNPLLNKVHNMINGDEKNSFECILGPSTTTPTFTTPTTPSTTPSTTPSTTPSTTPS
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US-10-218-743-18
US-10-218-743-18
; Sequence 18, Application US/10218743
; Publication No. US20030096779A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Dermatophagoides farinae
                                                                                                                                                                        US-10-218-743-15
; Sequence 15, Application US/10218743
; Publication No. US20030096779A1
; GENERAL INFORMATION:
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PRIOR FILING DATE: 2000-08-11
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                                                                                                      SEQ ID NO 2
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                                                                                 TITLE OF INVENTION: MOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS TITLE OF INVENTION: MOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS TITLE OF INVENTION: AND USES THEREOF TILL ALL-0.20 CURRENT APPLICATION NUMBER: US/10/218,743 CURRENT FILING DATE: 2002-08-13 CURRENT FILING DATE: 1999-04-15 PRIOR APPLICATION NUMBER: US/09/29.225 PRIOR APPLICATION NUMBER: 00/098,909 PRIOR FILING DATE: 1998-04-15 PRIOR APPLICATION NUMBER: 60/098,295 PRIOR APPLICATION NUMBER: 60/098,565 PRIOR APPLICATION NUMBER: 60/098,565 PRIOR APPLICATION NUMBER: 09/062,013 PRIOR APPLICATION NUMBER: 09/062,013 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR PILING DATE: 1998-04-17 PRIOR 
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35.7%; Pred. No. 1.2e-51;
tive 77; Mismatches 154; Indels
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APPLICANT: Bao, Zhongmeng
APPLICANT: Lu, Guihua
TITLE OF INVENTION: Sclerotinia-inducible Genes and
TITLE OF INVENTION: Promoters and Their Uses
FILE REFERENCE: 35718/234631
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CURRENT FILING DATE: 2001-08-07
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Patent No. US20020166143A1
GENERAL INFORMATION:
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McCall, Catherine A.
Hunter, Shirley Wu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 35.7%
Matches 148; Conservative
                                     Hunter, Shirle
Weber, Eric R.
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176 IPQLSQYLDYIHVMTYDLHGSW-EGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGA 234
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APPLICANT: Broadway, Roxanne M.
APPLICANT: Broadway, Carmenza E.
TITLE OF INVENTION: EFFECT OF ENDOCHITINASE AND CHITOBIOSIDASE AND THEIR
TITLE OF INVENTION: EFFECT OF ENDOCHITINASE AND DEVELOPMENT
FILE REFERENCE: 19603/3091
CURRENT APPLICATION NUMBER: US/09/748,033
PRIOR PILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/172,003
PRIOR FILING DATE: 1999-12-23
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                                                                                                                                                                                                                                                      Length 371;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
18.8%; Score 472; DB 9; Length 37
Best Local Similarity 34.1%; Pred. No. 7.5e-32;
Matches 118; Conservative 47; Mismatches 145; Indels
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
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US-09-748-033-3
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Patent No. US20020069431A1
GENERAL INFORMATION:
                                                                                                                       TYPE: PRT; ORGANISM: Helianthus annuus
US-09-923-844B-2
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Best Local Similarity 28.0*
Matches 117; Conservative
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SOFTWARE: Patentin Ver. 2.1
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128 K	150 K	183 -	205 8	231 A	258 T	278 T	309 G	326 G	
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Search completed: June 29, 2003, 21:13:37 Job time: 19.5 secs

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GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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OM protein - protein search, using sw model

June 29, 2003, 20:56:54 ; Search time 14.1346 Seconds Run on:

(without alignments)
3094.613 Million cell updates/sec

US-10-004-219B-14

2506 1 YQLTCYFTNWAQYRPGLGRF.....QQNCQAGLVFDTSCDCCNWA Title: Perfect score:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

Sequence:

283224 segs, 96134422 residues Searched: Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB E Maximum DB E Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR 73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description				oviductal glycopro	oviduct-specific g	estrogen dependent	chitinase (EC 3.2.	cal p	$\sim$	chitinase (EC 3.2.	m	chitinase (EC 3.2.		Ā		EC EC	chitinase homolog	OE)	chitinase (EC 3.2.	hypothetical prote	chitinase B homolo	g	_			chitinase I precur	٠	inase (E	chitinase [importe
SUMMARIES	ΔI	S27879	A49562	S51327	138605	S57197	146470	A53918	T15408	T44445	A56596	S61551	A38221	T14075	T43916	D83764	JQ1975	T04761	847133	A38368	T29275	AB1452	T03884	AB1088	T00323	T04762	S68121	S51369	JC4565	F84238
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do	Ouery Match	54.3	39.0	38.6		ζ.	37.6	36.4	35.3	34.9	34.4	32.0	31.4	30.7	19.5	φ.		æ,	18.5	18.5	18.3		•	•	18.0	•	17.6	17.3	17.1	17.0
	COK					943.5		912.5	885	874	863	801.5	786.5	768.5	488.5	482	472.5	465.5	463.5	463.5	457.5	456.5	454.5	451.5	450	444.5	440.5	434.5	427.5	427
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RESULT 2

chitinase (EC 3.2. chitinase homolog	47K glycoprotein p chitinase homolog	chitinase homolog	hypothetical prote chitanase (EC 3.2.	chitinase (EC 3.2. chitinase (EC 3.2. chitinase precurso	chitinase (EC 3.2. hypothetical prote	chitinase (EC 3.2.
S51591 T04763	351165 JC4038 T04756	T04757 D82428	T24898 T44440	D82510 T30933 S60651	S52422 T04754	S04856 T30199
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378	371 371	365	633 869	849 1054 563	499 332	499 1046
16.0	15.5 14.9	14.7	14.7	14.3 14.1 13.9	13.9 13.8	13.7
393	388	369.5	367.5	357.5 352.5 349.5	347.5	344.5
330	3 B S	392	38	3 4 4 1 1	4 4 3 3	4 4 4 5

## ALIGNMENTS

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Secretory protein YM-1 precursor - mouse
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Accession: S27879
R;Chang, N.C.A.; Liu, C.H.; Chang, A.C.
Submitted to the RMBL Data Library, June 1992
A;Description: Molecular characterization of a secretory protein (YM-1) transiently expression: S27879
A;Reference number: S27879
A;Residues: 1-399 cCHA>
A;Residues: 1-399 cCHA>
A;Residues: 1-399 cCHA>
A;Cross-references: EMBL:M94584; NID:G202441; PIDN:AAB62394.1; PID:g202442
C;Superfamily: Streptomyces chitinase chid
C;Superfamily: Streptomyces chitinase chid
C;Superfamily: Streptomyces chitinase chid
C;Superfamils: signal sequence #status preddicted <MAT>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLI 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               322 PQEVPYAXQGNEWVGYDNVRSFKLKAQWLKDNNLGGAVVWPLDMDDFSGSFCHQRHFPLT 381
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66.3%; Pred. No. 7.3e-95;
tive 46; Mismatches 80; Indels
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Best Local Similarity 66.3<sup>3</sup>
Matches 250; Conservative
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C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Accession: 138605
C;Accession: 138605
R;Arias, E.B.; Verhage, H.G.; Jaffe, R.C.
Biol. Reprod. 51, 685-684, 1994
A;Title: Complementary deoxyribonucleic acid cloning and molecular characterization of ar A;Reference number: 138605; MUID:95119256; PMID:7819459
                                                                                                                                            5;
                                                                                                                                                                                                                                                                                     61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
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A;Residues: 1-383 <SHA>
A;Cross-references: EMBL:247803; NID:g634097; PIDN:CAA87764.1; PID:g634098
C;Superfamily: Streptomyces chitinase chi40
                                                                                                                                              Gaps
                                                                                                                                            6
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49.3%; Pred. No. 2.6e-64;
tive 56; Mismatches 129; Indels 7;
                                                                                             Length 383;
                                                                                             Query Match 38.6%; Score 968.5; DB 2; Length Best Local Similarity 51.5%; Pred. No. 2.7e-65; Matches 189; Conservative 57; Mismatches 112; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Cross-references: EMBL: U09550; NID: 9529147; PID: 9529148
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A,Status: prellminary; translated from GB/EMBL/DDBJ
A,Molecule type: mRNA
A,Residues: 1-654 <RES>
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                                              N'Alternate names: 39K synovial protein
C'Species: Homo sapiens (man)
C'Date: 23-Mar-1995 #sequence_revision 23-Mar-1995 #text_change 22-Jun-1999
C'Accession: A49562; 810677; Ā33162
R;Hakala, B.E.; White, C.; Recklies, A.D.
A. Biol. Chem. 268, 25803-25810, 1993
A;Title: Human cartilage gp-39, a major secretory product of articular chondrocytes and A;Reference number: A49562; MUID:94064658; PMID:8245017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R.Shackelton, E.M.; Mann, D.M.; Millis, A.J.T.
submitted to the EMBL Data Library, January 1995
A.Description: Identification of a 38kDa heparin-binding glycoprotein (gp38k) in differe
                                                                                                                                                                                                                                                                                                                                                                           ochem. J. 269, 265-268, 1990
Title: Human synovial cells secrete a 39 kDa protein similar to a bovine mammary prote
Reference number: S10677; MUID:90328983; PMID:2375755
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VGPPTYGHNF1LSNPSNTG1GAPTSGAGPAGPYAKESGIWAYYE1CTFLKNGATQGWDAP 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQG-KFPLI 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22 YKLVCYYISWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLKNKNSQLKTLLA1GGWNFGTAPFTAMVSTPENRQTFITSV1KFLRQYEFDGLDFDWEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                       oss-references: GB:M80927; NID:g348911; PIDN:AAA16074.1; PID:g348912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Molecule type: protein

;Residues: 22-40,'X',42-45 <NY2>

;Superfamily: Streptomyces chitinase chi40

;Keywords: cartilage; extracellular protein; glycoprotein

;1-21/Domain: signal sequence #status predicted <SIG>

;22-383/Product: cartilage glycoprotein gp39 #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2; Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 39.0%; Score 976.5; DB 2; Length Best Local Similarity 51.2%; Pred. No. 6.7e-66; Matches 188; Conservative 62; Mismatches 108; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  heparin-binding glycoprotein 38K - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997
                             cartilage glycoprotein,gp39 precursor - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Reference number: S51327
                                                                                                                                                                                                                                                                                                                                                          Nyirkos, P.; Golds, E.E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STLKKAL 366
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NAIKDAL 380
                                                                                                                                                                                                                                                                                                              Residues: 1-383 <HAK>
                                                                                                                                                                                                                                                                    Status: preliminary
                                                                                                                                                                                                                                                                                        Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Status: preliminary Molecule type: mRNA
                                                                                                                                                                                                                                         A; Accession: A49562
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Accession: S10677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Accession: S51327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
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C;Species: Chelonus sp.
C;Date: 28-Jul-1995 #sequence_revision 28-Jul-1995 #text_change 21-Jul-2000
C;Accession: A53918
R;Krishan, A.; Nair, P.N.; Jones, D.
J. Biol. Chem. 269, 20971-20976, 1994
A;Title: Isolation, cloning, and characterization of new chitinase stored in active form A;Reference number: A53918; WUID:94342256; PMID:8063715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GKFTSLRKKNPSVKIMVAVGGWNAGSVPFSQMASDQATREAFAQNVVKFLQQYQFDGFDI 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DMEYPAQRGGSPADVKNMVKLCKALKKAFVQH------DYILSAAVAAPETSASKSYDI 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 SQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202 GRLLDFISVLSYDLHGSWEKVTGHNSPLFSLPGDPKSSA----YAMSYWRQLGVPPEKL 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        316 DQYVPYAFKGXEWVGYDDAISFGYKAFFIKREHFGGAMVWTLDLDDFRGNFCGTGPFPLA 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DWEYPGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEI 176
                                                                                                                                                                                                                                                                                                                                                                                                                   NGLKNIKNSQLKTLLAIGGWNPGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWE 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                     YPGSRGSPPODKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIOSGYEIPOL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240 IVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDA 2999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POEVPYAYOGNVWVGYDNIKSFDIKAOWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLI 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Accession: 146470
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-539 <DES>
A;Residues: 1-539 <DES>
A;Cross-references: EMBL:U16719; NID:g885600; PIDN:AAC48471.1; PID:g885601
                                                                                                                                                                                                                                                                                                           1 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIE-WNDVTLYQAF
                                                                                                                                                                                                                                                                                                                                        22 HKLVCYFTNWAFSRPGSASILPRDLDPFLCTHLVFAFASMNNNQIVPKDPLDEKILYPEF
                                                                                                                                                                                                                                                       Gaps
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A;Residues: 1-483 <KRI>
A;Cross-references: GB:U10422; NID:g533504; PIDN:AAA61639.1; PID:g533505
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63;
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                                                                                                                                                                                     Query Match
37.6%; Score 941.5; DB 2; Length 539;
Best Local Similarity 48.8%; Pred. No. 4.6e-63;
Matches 179; Conservative 59; Mismatches 122; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               chitinase (EC 3.2.1.14) precursor - braconid wasp (Chelonus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 38.0%; Pred. No. 6.1e-61;
Matches 185; Conservative 82; Mismatches 157; Indels
A; Reference number: I46470; MUID: 95269691; PMID: 7750470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STLKKAL 366
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Accession: A53918
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C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 05-Nov-1999
C;Accession: 146470
R;DeSouza, M.M.; Murray, M.K.
Endocrinology 136, 2485-2496, 1995
A;Title: An estrogen-dependent secretory protein, which shares identity with chitinases, and embryo development.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary
Akolecule type: mRNA
A;Residues: 1-537 -SENA
A;Cross-references: EMBL:D16639; NID:g391621; PIDN:BAA04065.1; PID:d1004583; PID:g391622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Sendai, Y.; Abe, H.; Kikuchi, M.; Satoh, T.; Hoshi, H.
Biol. Reprod. 50, 927-934, 1994
A;Title: Purification and molecular cloning of bovine oviduct-specific glycoprotein.
A;Reference number: S57197; MUID:94257768; PMID:8199272
A;Accession: S57197
                                        NGLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWE 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 SQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300 PQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLI 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 313 DQYVPYAFKGKEWVGYDDAISFGYKAFFIKREHFGGAMYWTLDLDDFRGYFCGTGFFFLV 372
                                                                                                                                             316 YQYVPYANKGKEWVGYDNAISFSYKAMFIRREHFGGAMVWTLDMDDVRGTFCGTGPPPLV 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NKLKERNRGLKTLLSIGGWNFGTVRFTTMLSTFSNRERFVSSVIALLRTHGFDGLDLFFL 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YPGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYBIPQL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240 IVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDA 299
     IVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDA 2999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19 HKLVCYFTNWAFSRPGPASILPRDLDPFLCTHLVFAFASMSNNQIVPKDPQDEKILYPEF 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWND-VTLYQAF 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                     C.Species: Bos primigenius taurus (cattle)
C.Date: 28-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 05-Nov-1999
                                                                                                                300 PQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 37.6%; Score 943.5; DB 2; Length 537; Best Local Similarity 49.6%; Pred. No. 3.2e-63; Matches 182; Conservative 53; Mismatches 125; Indels 7
                                                                                                                                                                                                                                                                                                                                                                                                                      oviduct-specific glycoprotein 95K precursor - bovine (fragment)
                                                                                                                                                                                                                          360 STLKKALGLQSASCTAPAQ 378
                                                                                                                                                                                                                                                                                 376 YVLNDILVRAEFSSTSLPQ 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTLNNLL 379
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Accession: S57197
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177 PQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPA 236  =::     :      :	337 GARPITICHEKALGIGOSES PARTEKEKNNYDDOPARPERSEARES, PREPRINTAS 388 337 B-KYPULKALBSUAGROSSS PARTEKEKNNYDDOPARPERSEARES, PREPRINTS 430 339 GSGNGGGSSSGGGGCTAVRANGIT WANNER. HERMANDER, PREPRINTS 431 430 GSGNGGGSSSGGGGCTAVRANGIT WANNER. HERMANDER, PREPRINTS 431 431 GECSSYGDELWGDNCG	

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C; Accession: A38221
R; Fuhrman, J.A.; Lane, W.S.; Smith, R.F.; Piessens, W.F.; Perler, F.B.
Proc. Natl. Acad. Sci. U.S.A. 89, 1548-1552, 1992
A; Title: Transmission-blocking antibodies recognize microfilarial chitinase in brugian 1), A; Reference number: A38221; MUID:92179220; PMID:1542646
A; Accession: A38221
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NGLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWE 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82 NKLKTRNINLKTILLSVGGWKFGEKRFSEIASNIERRIAFVRSVAPFLRSYGFDGLDLAWL 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YPGSRGSPPQDXHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDA 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:X93035; NID:g1085065; PIDN:CAA63603.1; PID:g1085066 R;Morrison, B.W.
B.W.
Submitted to the EMBL Data Library, November 1995
A;Reference number: 861550
A;Accession: 861550
A;Accession: 861550
A;Residues: 1-245, '1', 247-330, 'H', 332-350, 'MVWALDLDDFQGTCQPKEFFPLTNAIKDALA' < A;Cross-references: EMBL:X93035; NID:g1085065; PIDN:CAA63603.1; PID:g1085066
A;Note: the differences at the carboxyl end are due to a frameshift error
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chitinase (EC 3.2.1.14) MF1 - nematode (Brugia malayi)
C;Species: Brugia malayi
C;Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 21-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23 YVRGCYYTNWAQYRDGEGKFLPGNIPNGLCTHILYAFAKVDELGDSKPFEWNDEDTEWSK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAG-RONNEITTIEWNDVTLYQAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 YKLVCYFTSWSQYREGVGSFLPDAIQPFLCTHIIYSFANISSDNMLSTWEWNDESNYDKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 SQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKL
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A;Note: sequence extracted from NCBI backbone (NCBIP:85345)
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                                                                          C;Genetics:
A;Gene: brp39
C;Superfamily: Streptomyces chitinase chi40
E;1-21/Domain: aignal sequence #status predicted <SIG>
F;22-405/Product: breast-regressing protein brp39 #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41;
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                                                                                                                                                                                                                                                                                                                                                                                            32.0%; Score 801.5; DB 2; Length 405; 45.7%; Pred. No. 1.1e-52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGA----MVWAI 341
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    63; Mismatches 112;
                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 45.7% Matches 158; Conservative
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Matches 169; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --KNGATQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFT 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DWEYPGS---RGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGY 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGA 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G-LCGE-KNPLIKILHKHMSSYTVPPPHTENTTPTPEWARPPSTPSDPSEGDPIPTTTA 436
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                                                                                                                                                                                               encoding epidermal and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
cultinase (EC 3.2.1.14) - tobacco hornworm
C;Species: Manduca sexta (tobacco hornworm)
C;Date: 11-Aug-1995 #sequence_revision 11-Aug-1995 #text_change 29-Jan-1999
C;Accession: A56596
R:Kramer, K.J.; Corpuz, L.; Choi, H.K.; Muthukrishnan, S.
Insect Biochem. Mol. Biol. 23, 691-701, 1993
A;Title: Sequence of a cDMA and expression of the gene encoding epidermal and A;Reference number: A56596; MUID:93357793; PMID:8353525
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                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:U02270; GB:S64757; NID:g406048; PID:g406049
A;Experimental source: larvae
A;Note: sequence extracted from NCBI backbone (NCBIN:136417, NCBIP:136418)
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
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A;Molecule type: mRNA
A;Residues: 1-554 <KRA>
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us-10-004-219b-14.rpr

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chitinase A [imported] - Pyrococcus kodakaraensis
C;Species: Pyrococcus kodakaraensis
C;Species: Pyrococcus kodakaraensis
C;Species: Pyrococcus kodakaraensis
C;Adresion: T43916
R;Tanaka, T.; Fujiwara, S.; Nishikori, S.; Fukui, T.; Takagi, M.; Imanaka, T.
Appl. Environ. Microbiol. 65, 5338-5344, 1999
A;Title: A unique chitinase with dual active sites and triple substrate binding sites frc
A;Reference number: Z22722; MUID:20049967; PMID:10583986
A;Accession: T43916
                                                                                                A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1215 <TAN>
A;Residues: 1-1215 <TAN>
A;Cross-references: EMBL:AB024740; NID:g6580044; PIDN:BAA88380.1; PID:g6580045
                 FIGIFCNOCKFPLISTLKKALGLOSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGG
NGATQGWDAPQE-----VPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDD
                                                                                                                                                                      SGFCAVRANGLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNWA
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C;Species: Bacillus halodurans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19.5%; Score 488.5; DB 2; Length 28.9%; Pred. No. 1.8e-28; Live 84; Mismatches 178; Indels
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PSNETTPEDNQTNPNPSQGN
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Best Local Similarity 28.94
Matches 127; Conservative
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 291
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                                                                                               257 MPKEKIIIGIPMYAQGWTLDNPSETAIGAAASRPSSASKTNPAGGTASYWEICKYLKEGG 316
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                                                                                                                                                      234 APAEKLIVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGA 293
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 LDFDWEYPGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSG 173
                                                                                                                                                                                                                                                                                                                                                                                                                     ETEATTYDTDETEGOE--CPER-DGLFPHPTDCHLFIQCANNIAVVMQCPATTFFNDAIK 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chitinase (EC 3.2.1.14) - yellow fever mosquito
C;Species: Aedes aegypti (yellow fever mosquito)
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T14075
R;de la Vega, H.; Specht, C.A.; Liu, Y.; Robbins, P.W.
Insect Mol. Biol. 7, 233-239, 1997
A;Title: Chitinases are a multi-gene family in Aedes, Anopheles, and Drosoph A;Reference number: 217872
                                                                           174 YEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNG
                                                                                                                                                                                                                                 294 TQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQ
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                                                                                                                                                                                                                                                                                                          GKFPLISTLKKALGLQSASCTAPAQPIEP-ITAAPSGSGNGSGSSS----
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C;Keywords: glycosidase; hydrolase; polysaccharide degradation
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A;Molecule type: DNA
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Matches 168; Conservative
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232 MKEYKRKYPAVKVLISVGGWTL-SKYFSVVAADPAKRQRFAETAIEILRKYNLDGIDIDW 290
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                                                                                                                                                                                                                                                                                                                                                                                                                                                -YEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYP----TDTGSNAYLNVDYVMNY 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          348 RIDWVEASKYLDSINIMTYDYHGAMETITGHLAPLYCDPNAPYTDENVKYHFCVNYTVQW 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WKDNGAPAEKLIVGFPTYGHNFILSNPSNTGIGAPTSG--AGPAGPYAKESGIWAYYEIC 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         287 TFLKNGATQ----GWDAPQEVPYAYQGN--VWVGYDNIKSFDIKAQWLKHNKFGGAMVWAI 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408 YIQHVPDKTKITVGLPFYSRSFANVPPENNGLYQPFSGTPAGTWGPAYETYGVMDYWDVA 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      526 TADRKPGT----NDHPLLDTVLQHLGEKPPAWIPDTYYIGSNIPSNITVP----EPTPLP
                                                                                                                                                                                                      175 YRVIVYYISWGRY---ARKFYVSDIPWEKVTHVNYAFLDLKEDGTVAFYDTYADPLNLEA
                                                                                                                                                                                                                                                                         59 FNGLKNKNSQLKTLLAIGGWNFCTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDW
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                                                               51;
DB 2; Length 1215;
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A;Cross-references: GB:AP001510; GB:BA000004; NID:g10173440; PIDN:BAB04635.1; GSPDB:GNOd
A;Experimental source: strain C-125
                                                           Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Magui, N.; Fuji, F.; Hira notate Cards Res. 28, 4317-4331, 2000
Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and Reference number: A83650; MUID:20512582; PMID:11058132
Accession: D83764
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 186 IHVMTYDLHGSWEGYTGENSPLYKYP----TDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYPGSRGSP----PQ 129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GMPFYGRGWSNCDGANQGEYQRCAPPREGTW-----ENGVFDFSDLEDHYINKNGYQR 381
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 YQLTCYFTNWAQYRPGLGR-FMPDNIDPCLCTHLIYAFA-----GRQNN------ 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40 YKIVAYYPSWGAY----GRDYQVWDIDASKISHINYAFANICWDGRHGNPDPAGPNPQTW 95
01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----YQAFNGLKNKNSQLKTLLA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 19.2%; Score 482; DB 2; Length 599; Best Local Similarity 27.9%; Pred. No. 2.1e-28; Matches 127; Conservative 85; Mismatches 144; Indels 100;
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he : 15.1346 secs
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A; Residues: 1-599 <STO>
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A;Gene: BH0916
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3665.470 Million cell updates/sec
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1 YQLTCYFTNWAQYRPGLGRF......QQNCQAGLVFDTSCDCCNWA
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
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Maximum Match 100%
Listing first 45 summaries
                                                            OM protein - protein search, using sw model
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Q9ULY4
Q9ULY3
Q91XA9
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Q9D803
Q99PH2
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p_virus:*
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p_unclassified:*
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sp_bacteria:*
sp_tungi:*
sp_human:*
sp_nuvertebrate:*
sp_manmal:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sp_bacteriap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_organelle:*
                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
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Match Length
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2097.5
2089.5
2039
2010
1725
1670.5
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                                                                                                                                                                       Perfect score:
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Q9h3v8 homo sapien Q9v2v2 drosophila Q960m0 drosophila Q96hi7 homo sapien	OsspgO capra hircu Q29411 sus scrofa O96f97 homo sapien O61201 mus musculu	O)9118 macaca mula O99419 rattus norv O991b3 oryctolagus O96701 mus musculu	helonus ricosophila los taurum mus muscu	Q89710 angering 9 Q89710 drosophila Q99704 bombyx mori Q9WZB bombyx mori Q99705 bombyx mori	P90710 bombyx mori Q99731 hyphantria Q99744 spodoptera Q9gpg9 bombyx mand Q17100 acanthochei Q27919 acanthochei
4 Q9H3V8 5 Q9VZV2 5 Q960M0 4 Q96HI7	6 Q8SPQ0 6 Q29411 4 Q96F97 11 Q61201	6 019118 11 Q9WTV1 6 Q95LB3 11 Q9D7Q1	5 Q23737 5 Q9W2Z3 6 Q18949 11 Q99U84	5 041075 5 0962C4 5 09W2M7 5 08WR52 5 09GV05	5 P90710 5 Q9GR93 5 Q9GR44 5 Q9GR44 5 Q17100 5 Q27919
387 696 1013 383	383 383 390 260	624 352 457 396	483 4498 332 381	5 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
46.8 40.2 39.1 38.9	38.8 38.6 38.6 5.6	38.1 37.8 37.2	35.2 35.2 4.25.2	4 4 4 4 4 4 4 4 4 4 4 4 6 6 6 6 6 6 6 6	3333.9 333.8 32.0 8.0 8.0 8.0
1173 1008.5 980 974.5	972.5 968.5 966.5 966	954.5 948.5 933	912.5 890.5 881 879.5	853 853 853 853	8551 849.5 849.5 848 828 828
11 118 20	22 22 24 24 24 24 24 24 24 24 24 24 24 2	25 24 28 28	331	. 4 6 6 6 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6	W 4 4 4 4 4 9 0 4 6 6 6 6

## ALIGNMENTS

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Boot R.G., Blommaart E.F.C., Swart E., Ghauharali-Van Der Vlugt K., Bijl N., Noe C., Place A., Aerts J.M.F.G.; "Identification of a Novel Acidic Mammalian Chitinase Distinct from
                                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 2506; DB 4; Length 476; 100.0%; Pred. No. 1.5e-171; ive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 21 POTENTIAL.
476 AA; 52271 MW; 92B27BAD2F7EB4CC CRC64;
                                                                                01-JUN-2001 (TrEMBLrel. 17, Last sequence update) 01-JUN-2002 (TrEMBLrel. 21, Last annotation update) Acidic mammalian chitinase precursor (EC 3.2.1.14).
  476 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE, PS01095, CHITINASE 18, UNKNOWN 1.
Glycosidase, Hydrolase, Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Biol. Chem. 276:6770-6778 (2001).

EMBL, AF290004; AAG60019.1; --

InterPro; IPR001579; Chitin bind PerA.

InterPro; IPR001223; Glyco hydro_18.

Pfam; PF01607; CBM 14; 1.

Pfam; PF00704; Glyco hydro_18; 1.

Probom; P000404; Glyco hydro_18; 1.

Probom; P000404; Glyco hydro_18; 1.
                             Q9BZP6;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last seq
PRT;
                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
TISSUE-STOMACH, AND LUNG;
MEDLINE-21125893; PubMed=11085997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
Matches 455; Conservative
  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chitotriosidase."
                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
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  09BZP6
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1 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN 60

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261 300 360 381

262 VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGRDAP.321

241

QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS QEVPYA YQGNVWVGYDN I KSFDI KAQMI KHIMKFGGAMVWA IDLDDFTGTFCNQGKFPLIS

322 361

301

382 421 442

202 QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP

QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI

181

TLKKALGLOSASCTAPAQPIEPITAAPSGSGNGSGSSSGGSSGGSGFCAVRANGLYPVA 420 TLKKALGLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGGGCAVRANGLYPVA 441

NNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNWA 455 NNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNWA 476

141 180 201

81

22 61

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121

82 GLKNKNSQLKTLLAIGGWNFGTARFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS 

GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY

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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                               83.7%; Score 2097.5; DB 11; Length 472;
81.5%; Pred. No. 2.8e-142;
tive 40; Mismatches 41; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                              PUTATIVE CHITINASE.
FF59088512C8A7F0 CRC64;
                     OGULNI
PRELIMINARY, PRT; 472 AA.
OGULNI;
O1-CCT-2000 (TrEMBLrel. 15, Last sequence update)
O1-CCT-2000 (TrEMBLrel. 15, Last sequence update)
O1-UN-2002 (TrEMBLrel. 21, Last annotation update)
Putative chitinase precursor (Fragment).
                                                                                                                                                                                                                                                               MGD; MGI:1932052; Chia.
InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR001579; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF0167; CBM 14; 1.
Pfam; PF00704; Glyco_hydro_18; 1.
Probom; PF00044; Glyco_hydro_18; 1.
PROSTIE; SM0494; ChtBD2; 1.
PROSTIE; PS01095; CHITINASE_18; 1.
Glycosidase; Hydrolase; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                         51872 MW;
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Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                               472
                                                                                                         musculus (Mouse).
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                                                                                                                                            NCBI_TaxID=10090;
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                                                                                             CHIA OR YNL.
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RESULT 2
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EMBL; AK008633; BAB25795.1; -.

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Gaps

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KRAIN=CSTEL/64; TISSUE=STOWACH;

KRANI J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,

Arakawa T., Hara A., Fukunishi Y., Komno H., Adachi J., Fukuda S.,

A zawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,

Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,

Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackembush J.,

Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

Brownstein M.J., Bult C., Fletcher C., Fullita M., Gariboldi M.,

Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,

Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

Saski H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,

Suzuki H., Toyo-oka K., Wang K.H., Weltz C., Whittaker C., Wilming L.,

Wynshaw-Boris A., Yoshida K., Rasegawa Y., Kawaji H., Kohtsuki S.,

Landon H., Salo M., Sabari V., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                   21 YNLICYFTNWAQYRPGLGSFKPDDINPCLCTHLIXAFAGWQNNEITTIEWNDVTLYKAFN
                                                                                          141 PGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS
                                                                                                                                                                                                                                                                                                                   YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRONNEITTIEWNDVTLYQAFN
                                                                         61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY
                                                                                                                                                PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                                                                                                                                                                                                                                                                                                                                                                         QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS
                                                                                                                                                                                                                                                                                                                                                                                           181 QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
                                                                                                                                                                                                                                          TLKKALGLQSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGSGFCAVRANGLYPVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421 NNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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Q9D803;
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61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               262 VGFPEYGHTFILRNPSDNGIGAPTSGDGPAGAYTRQAGFWAYYEICTFLRSGATEVWDAS 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         382 TLNKALGISTEGCTAPDVPSBPVTTPP---GSGSGGSSGGSSGGSGCCADKADGLYPVA 438
                                                                                                                                                                                                                                                                                                                                                                  22 YNLICYFTWWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMONNEITTIEWNDVTLYKAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VGFPTYGHNF1LSNPSNTG1GAPTSGAGPAGPYAKESG1WAYYE1CTFLKNGATQGWDAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                           PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CBP B04.
Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                 DB 11; Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Suzuki M., Morimatsu M., Yamashita T., Iwanaga T., Syuto B.; "A novel serum chitinase that is expressed in bovine liver."; FEBS Lett. 506.127-130 (2001).
FEBS Lett. 506.127-13 (2001).
InterPro; IPR001579; Chitinase_18/2.
                                                                                                                                                                                                                                                                                                   42; Indels
                                                                                                                                                                                                                        473 AA; 51977 MW; 389D87557BEC0784 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-UN-2002 (TrEMBLrel. 21, Last annotation update)
Chitin binding protein b04.
                                                                                                                                                                                                                                                            83.4%; Score 2089.5; DB 11
81.3%; Pred. No. 1.1e-141;
iive 40; Mismatches 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                454
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AF290003; AAG60018.1; -. MGD; MGI:1932052; Chia.
InterPro; IPR001579; Chitinase_18/2.
InterPro; IPR001257; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Fidan; FF01067; CBM 14; 1.
ProDom; PF00704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
SWART; SM00494; ChtBD; 1.
Glycosidase; Hydrolase.
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                                                                                                                                                                                                                                                                                 Best Local Similarity 81.3
Matches 369; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201
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                                                                                                                                                                                                                                                                                                                       1 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                           22 YNLICYFTWWAQYRPGLGSFKPDDINPCLCTHLIYAFAGMQNNEITTIEWNDVTLYKAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        322 QEVPYAYKANEWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TLKKALGLOSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGCSGFCAVRANGLYPVA
                                                                                                                                                                                                                                                                                                                                                                                                                      142 PGSRGSPPQDKHLFTVLVKEMREAFEQEAIESNRPRLMVTAAVAGGISNIQAGYEIPELS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KYLDFIHVMTYDLHGSWEGYTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=BALB/C; TISSUE=LUNG;
MEDLINE=2112893: PubMed=11085997;
BOOT R.G., Blommastr E.F.C., Swart E., Ghauharali-Van Der Vlugt K.,
Bijl N., Moe C., Place A., Aerts J.M.F.G.;
"Identification of a Novel Acidic Mammalian Chitinase Distinct from Chitcriosidase.";
J. Biol. Chem. 276:6770-6778(2001).
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL.
HYDROLASES).
                                                                                                                                                                                                                                                                                   Gaps
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Acidic mammalian chitinase (BC 3.2.1.14).
CHIA.
Mus musculus (Mouse).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Euteria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
                                                                                                                                                                                                                                                                                   .;
e
                                                                                                                                                                                                                                      Ouery Match 83.7%; Score 2097.5; DB 11; Length 473; Best Local Similarity 81.5%; Pred. No. 2.8e-142; Matches 370; Conservative 40; Mismatches 41; Indels 3;
                                                                                                                                                                                                    473 AA; 52003 MW; 333C874477476695 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DDRNAFWQCINGITYQQHCQAGLVFDTSCNCCNW 472
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MGD; MGI:1932052; Chia.
InterPro; IPR001579; Chittinase_18/2.
InterPro; IPR00257; Chittin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF01607; CBM_14; 1.
Pfam; PF0704; GlyCo hydro 18; 1.
Probom; PD000471; Glyco hydro 18; 1.
SMART; SM00494; ChtBD2; 1.
PROSITE; PS01095; CHITINASE_18; 1.
                                                                                                                                                                                Glycosidase; Hydrolase
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CHITINASE 18; UNKNOWN 1.
; 40082 MW; 10FB970C79E19254 CRC64;
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Conservative
                                                                                          Matches 366; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
                      368 AA;
                                                       Query Match
Best Local Similarity
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   PROSITE; PS01095;
SEQUENCE 368 AA;
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Matches 31
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                                                                                                                                                                                                                                  22 YQLVCYFSNWAQYRPGLGSFKPDNIDPCLCTHLIYAFAGMSNSEITTIEWNDVALYSSFN
                                                                                                                                                                                                                                                                                      61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY
                                                                                                                                                                                                                                                                                                            DLKKKNSQLKILLAIGGWNFGTAPFTAMVATPENRKTFISSVIKFLHQYGFDGLDFDWEY
                                                                                                                                                                                                                                                                                                                                                               PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
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                                                                                                                                                                                Gaps
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A Saito A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;

Saito A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;

I solation and mapping of a human lung-specific gene, TSA 1902,

E encoding a novel chitinase family member.";

Gene 239:325-331(1999).

R EMBL; AB0255008; BAA86980.1; -.

R InterPro; IPR001257; Chitinase 18/2.

R InterPro; IPR001257; Chitin bind PerA.

R InterPro; IPR001223; Glyco_hydro_18.

R Pfam; PF00704; Glyco_hydro_18; 1.

R Probom; PD000471; Glyco_hydro_18; 1.

R Probom; PD000471; Glyco_hydro_18; 1.
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Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                  4.
                                                                                                                                           Length 472;
                                                                                                                                                                              Indels
                  InterPro; IPR001223; Glyco_hydro_18.

Pfam; PF01607; CBM 14; 1.

Pfam; PF01704; Glyco_hydro_18; 1.

Pr000m; PD000471; Glyco_hydro_18; 1.

PROSITE; P801095; CHITINAE 18; UNRYOWN 1.

SEQUENCE 472 AA; 52129 MW; 7A4A600E8DA04B1E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                              57;
                                                                                                                                           81.4%; Score 2039; DB 6;
80.2%; Pred. No. 4.4e-138;
iive 29; Mismatches 57;
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InterPro; IPR002557; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
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                                                                                                                                                              Best Local Similarity 80.2
Matches 365; Conservative
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                                                                                                                                               Query Match
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Q9ULY4;
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                                                                                                                                                                                                                                      61 BAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPL 120
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                                                                                                       88 MVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYPGSRGSPPQDKHLPTVLVQEMREAFEQ
                                                                                                                                                    1 MVSTPENRQTFITSVIKFLRQYBFDGLDFDWEYPGSRGSPPQDKHLFTVLVQEMREAFEQ
                                                                                                                                                                                                         148 EAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPL
                                                                                                                                                                                                                                                                                                              YKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIVGFPTYGHNFILSNPSNTGIGAPTSGA
                                                                                                                                                                                                                                                                                                                                                                                                                   268 GPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQW
                                                                                                                                                                                                                                                                                                                                                                                                                                          LKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLISTLKKALGLQSASCTAPAQPIEPITAAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SGSGNGSGSSSSGGSSGGSGFCAGRANGLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SGSGNGSGSSSSGGSGGFCAVRANGLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDT
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=20018184; PubMed=10548734;
Saito A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Saito A., Ozaki K., Fujiwara T., Nakamura Y., Tanigami A.;
Isolation and mapping of a human lung-specific gene, TSA 1902, encoding a novel chithnase family member.";
Gene 239:325-331 (1999).
EMBL; AB025009; BAA86991.1;
InterPro; IPR001223; Glitin bind PerA.
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                                                       Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Novel member of chitinase family.
80.2%; Score 2010; DB 4;
99.5%; Pred. No. 3.8e-136;
ive 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68.8%; Score 1725; DB 4; 99.4%; Pred. No. 8.1e-116; ive 1; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=21264517; PubMed=11297523; Chan J.E., Liu C.H., Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J. Chan J
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                                       SGSGNGSGSSSSGGSGGCGCCAVRANGLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDT
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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SECRETORY PROTEIN.
C11187661B99D1D1 CRC64;
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Last annotation update)
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CHAIN 22 398
SEQUENCE 398 AA; 44458 MW;
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01-MAR-2001 (TrEMBLrel. 16, L
01-MAR-2002 (TrEMBLrel. 20, L
Secretory protein precursor.
CHI3L3 OR YMI.
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                                                                                                                                                                            SCDCCNW 454
                                                                                                                                                                                                                                             SCNCCNW 364
                                       388
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                                                                                                                                            GAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQEVPYAYQGNVWVGYDNIKS 320
                                                                                                                                                                                                                                                                          FDIKAQWIKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLISTLKKALGLQSASCTAPAQFI 380
                                                                                                                                                                                                                                                                                                                                                                                                               EPITAAPSGSGNGSGSSSGGSGGCGGCTCAVRANGLYPVANNRNAFWHCYNGVTYQQNCQ 440
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                                                                                                                                                                                                                                                                                                                  181 FDIKAQWLKHNKFGGAMVWAIDLDDPFTGTFCNQGKFPLISTLKKALGLGSASCTAPAQPI
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                                       TGENS PLYKY PTDTGSNAY LINVDY VMNY WKONGAPAEKLI VGFPTYGHNFILSNPSNTGI
                                                                                                                                                                            Gaps
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Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
TISSUB-SALIVARY GLAND;
Strausberg R.;
Submitted (UML-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; BC011134; AAH11134.1; -.
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InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001529; Chitin bind PerA.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF01607; CBM_14; 1.
Pfam; PF00704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
PROSTIR; PS01095; CHITINASE 18; UNKNOWN 1.
SEQUENCE 365 AA; 39968 MW; C900BEOC4416FIDD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Similar to eosinophil chemotactic cytokine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         365 AA
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Eukaryota, Metazoa, Chordata,
Mammalia, Eutheria, Rodentia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGLVFDTSCDCCNWA 315
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Matches 295; Conservative
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STRAIN=129/OLA;
Su W.B., Chang N.-C.A.;
Su W.B., Chang N.-C.A.;
"Genomic organization of the ym2 gene.";
Submitted (DEC-2021) to the EMBL/GenBank/DDBJ databases.
EMBL; AF46f142; AAL66748.1;
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18; 1.
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Last sequence update)
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Interpro; IPR01223; Glyco_hydro_18.
Prend, PPO0004; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
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01-MAR-2002 (TrEMBLrel. 20,
01-MAR-2002 (TrEMBLrel. 20,
01-JUN-2002 (TrEMBLrel. 21,
MA2.
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                                              SEQUENCE FROM N.A
NCBI_TaxID=10090;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                    TISSUE=BONE MARROW;
MEDLINE=20093902; PubMed=10625674;
MEDLINE=20093902; PubMed=10625674;
MEDLINE=20093902; PubMed=10625674;
MIGHIGALIGATION OF a novel anovel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22 YQLMCYYTSWAKDRPIEGSFKPGNIDPCLCTHLIYAFAGMONNEITYTHEODLRDYEALN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       262 VGFPAYGHTFILSDPSKTGIGAPTISTGPPGKYTDESGLLAYYEVCTFINEGATEVWDAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
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01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MR-2002 (TrEMBLrel. 20, Last annotation update)
Secreted protein precursor Ym2.
Mus musculus (Mouse).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Musnae.
                                                                                                                                                                                                                Mus musculus (Mouse).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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                                                                                                                               Last sequence update)
Last annotation update)
                                                                    398 AA
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                                                                                                             Created)
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                                                                                                       01-FEB-1997 (TrEMBLrel. 02, 01-MAY-2000 (TrEMBLrel. 13, 01-MAR-2002 (TrEMBLrel. 20,
                                                                 PRELIMINARY;
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                                                                                       P70201;
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61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
PubMed=11553626,
Webb D.C., McKenzie A.N.J., Foster P.S.;
"Expression of the Ym2 Lectin-binding Protein Is Dependent on Interleukin (II)-4 and IL-13 Signal Transduction. IDENTIFICATION OF NOVEL ALLERGY-ASSOCIATED PROTEIN.";
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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0
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VGFFTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP 300
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                                                                                                                                                                                                                           QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS 360
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Thesis (2001), Department of Department of Biology, Waseda University,
Tokyo, Japan.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bufo japonicus (Japanese toad).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Amphibia; Batrachia, Anura, Neobatrachia, Bufonoidea; Bufonidae, Bufo.
   PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                        PGPRGSPPKDKHLFSVLVOEMRKAPEESTLNHIPRLLLTSTGAGFIDVIKSGYKIPELS
                                                                            QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
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51.6%; Pred. No. 5.2e-88;
iive 58; Mismatches 133; Indels
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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EMBL, AJ45054; CAC87888.1; -.
InterPro; IPR002086; Aldehyde dehydr.
InterPro; IPR001208; Chitinase 18/2.
InterPro; IPR001203; Chitin bind Pera.
InterPro; IPR001223; Chitin bind Pera.
InterPro; IPR001223; Chyco_hydro_18.
Prom; PF010070; CBM 14; 1.
Prom; PF01070; CBM 14; 1.
Prom; PE00171; GJyco hydro 18; 1.
PROSITE; PS01095; CHITINASE 18; UNKNOMN_1.
GJycosidase; Hydrolase; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                   488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Foad pancreatic chitinase (EC 3.2.1.14)
                                                                                                                                                                                                                                                                                                    TLKKALGLOSASCTA 375
                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 51.67
Matches 249, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           488 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
TISSUE=PANCREAS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=8387;
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                                        142
                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                    361
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS 180
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                                                                                                                                                                                                                                                                                                                                                                                            261
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      QEVPYAYQGNVWVGYDNIKSFDIKAQMLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLIS 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           322 QEVPYAYLGNEWVGYDNVRSFKLKAQWLKDNNLGGAVVWPLDMDDFSGSFCHQGRPPLTT 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN 60
                                                                                                                                1 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22 YQLMCYYTSWAKDRPTEGSFKPGNIDPCLCTHLIYAFAGMKNNEITYLSEQDLRDYEALN
                                                                                                                                                     22 YQLMCYYTSWAKDRPTEGSFKPGNIDPCLCTHLIYAFAGMKNNEITYLSEQDLRDYEALN
                                                                                                                                                                                                                             QSLDYIQVMTYDLHDPKNGYTGENSPLYKSPYDIGKSADLNVDSIITYWKDHGAASEKLI
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                                                                                              Gaps
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                         DB 11; Length 402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 55.0%; Score 1379; DB 11; Length Best Local Similarity 66.4%; Pred. No. 7e-91; Matches 249; Conservative 52; Mismatches 74; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-BALB/C; TISSUE-STOMACH;
Yang S.C., Su W.B.;
Tissue-specific Expression of Ym2 Protein.";
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AV065557; AAL57751.1;
InterPro; IPR001223; Glyco_hydro_18.
Fram; PF00704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
ProDom; PQ AA; 44985 MM; D935382E89AS981A CRC64;
                                                                                            Indels
ProDom; PD000471; Glyco hydro 18; 1.
SEQUENCE 402 AA; 44975 MW; D935389319A59905 CRC64;
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Last sequence update)
Last annotation update)
                                                     55.2%; Score 1384; DB 11; 66.7%; Pred. No. 3e-91; Live 52; Mismatches 73;
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TLKRDLNVHSASCKA 396
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01-MAR-2002 (TrEMBLrel. 20,
01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Putative secretory protein.
                                                       Query Match
Best Local Similarity 66.7%
Matches 250; Conservative
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QLLDFISVMTYDFHGGWDTQSGHNSPLCKGSTDYGDLQYFNIHFAMNYWKNNGAPAEKLL 258
                                       VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP 300
                                                                                                             ---SASCTAPAQPIEPITAAPSGSG 391
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    IDVDPNFCVEKTDGLHVNPLNTNKFYICANGRTYSMKCADGLVFQASCNC 484

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96064695; PubMed=7592832; Boot R.G., Renkema G.H., Strijland A., van Zonneveld A.J., Aerts J.M.; Boot R.G., Renkema G.H., Strijland A., van Zonneveld A.J., Aerts J.M.; Cloning of a cDNA encoding chitotriosidase, a human chitinase produced by macrophages.; J. Broduced by macrophages.; J. Biol. Chem. 270:26252-36256(1995).
-I SIMILARIY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL HYDROIASES).
                                                        378 HLKSLLEGSTVNCPGEICGGISIPTTPSATTTTTTTTAKPDCTTPEPPVTPPVPPV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               392 NGSGSSSGGSSGGSGFCAVRANGLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 QLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVILYQAFNG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 , 21 POTENTIAL.
22 466 CHITOTRIOSIDASE.
466 AA, 51681 MW, B4312D1E8855386D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nterpro; IPR001579; Chitinase 18/2.
nterpro; IPR002557; Chitin bind Pera.
nterpro; IPR001223; Glyco_hydro_18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
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Pfam; PF0704; GlyCo hydro 18; 1.
SPODOM; PD000471; GlyCo hydro 18; 1.
SWART; SM00494; ChtBD2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS01095; CHITINASE 18; 1. Glycosidase; Hydrolase; Signal. SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01, 01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chitotriosidase precursor.
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Matches 240; Conser
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01-NOV-1996 (
01-NOV-1996 (
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Search completed: June 29, 2003, 21:01:48 Job time : 26.5769 secs

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Similarity
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Best Local Simil
Matches 240; C
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1136.565 Million cell updates/sec
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Sequence 6, 1
Sequence 2, 1
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Sequence 32,
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Sequence 14,
Sequence 15,
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Sequence 16,
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Sequence 6,
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Sequence
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2506
1 YQLTCYFTNWAQYRPGLGRF......QONCQAGLVFDTSCDCCNWA
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
GenCore version 5.1.6
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US-08-267-574-4

US-08-309-198A-14

US-08-30-198A-14

US-08-30-198A-14

US-09-30-198A-14

US-09-30-198A-14

US-09-30-198A-14

US-09-267-574-14

US-08-877-599-15

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US-09-267-574-15

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US-09-499-7490-17
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US-09-545-814-5
US-09-545-814-32
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US-09-545-814-14
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Maximum Match 100%
Listing first 45 summaries
                                                                                        - protein search, using sw model
                                                                                                                                      June 29, 2003, 20:57:59
                                                                                                                                                                                                                                                                                                                                                    Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Issued Patents AA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 200000000
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Match Length
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Perfect score:
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TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: In therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSES: Hoffmann & Baron
STREET: 1350 Jericho Turnpike
CITY: Jericho
STATE: New York
COUNTRY: United States of America
ADDRESSES: Hoffmann & Baron
STREET: 11758
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: THM PC compatible
OPERATING SYSTEM: PRICHORATION:
MEDIUM TYPE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Baron, Romald J.
REGISTRATION NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 29,281
REFERENCE/DOCKET NUMBER: 29,282
TELEPHOME: SLOB NUMBER: 29,283
TELEPHOME: SLOB NUMBER: SLOB NO: 4:
SEQUENCE CHARACTERICS:
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERICS:
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US-09-292-225-41
US-09-292-225-35
US-09-292-225-38
US-09-292-225-15
US-09-292-225-18
US-09-292-225-18
US-09-545-814-29
US-09-545-814-29
US-08-448-396-7
US-08-448-396-7
US-08-09-560-7
US-08-371-680-2
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US-08-371-680-2
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US-08-371-680-2
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Patent No. 5228928
GENERAL INFORMATION:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 466 amino acids
TYPE: amino acid
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52.8%; Score 1323; DB 3; Length 4
52.2%; Pred. No. 1.4e-111;
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STATE: 111inois
COUNTRY: United States of America
ZIP: 60606-6402
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MEDIUM TYPE: Floppy disk
CMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Sequence 2, Application US/09039198A; Patent No. 6200951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 2786
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (312) 474-6300
TELEPAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     466 amino acids
Query Match
Best Local Similarity 52.2
Matches 240; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
STREET: 233
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                                                                                                                                                                                                                                                                                             181
                                                                                                                                                        182 YLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLIV 241
                                                                                                                                                                                                                            GFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAPQ 301
                                                                                                                                                                                                                                              263. GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQ 320
                                                                                                                                                                                                                                                                                                                                                                 LKKAL------GLOSASCTAPAQPIEPITAAPSGSGNGSGSSSSGGSSGGCGCCAVRAN 414
                                                                                                                                                                                                                                                                                                                                                                                       -----EHGPSPGQDTFCQGKAD 425
                   62 LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP 121
                                                                                                           GSRGSPPODKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ
                                                                                                                                                                              203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A Human Chitinase, Its Recombinant
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
                                                                                                                                                                                                                                                                                                                                                                                                                                     GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 11791
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                   381 İRQELSLPYLPSGTPELEVPKPGQPSEP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/151,011
FILING DATE: 10 - September - 1998
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann & Baron, LLP STREET: 6900 Jericho Turnpike CTTY: Syosset STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4, Application US/09151011
Patent No. 6057142
GENERAL INFORMATION:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                42,910
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (516) 822-3550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Morriss, Robert C. REGISTRATION NUMBER: 42, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (516) 822-3582 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    : 466 amino acids
amino acid
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TITLE OF INVENTION:
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MOLECULE TYPE:
HYPOTHETICAL: 1
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62 LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP 121
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                                                                                                                                       23 KLVCYFTNWAQYRQGEARFLPKDLDPSLCTHLIYAFAGWTNHQLSTTEWNDETLYQEFNG
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                                                                                                              2 QLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITIEWNDVTLYQAFNG
                                                           Gaps
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Length 466;
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233 South Wacker Drive/6300 Sears Tower
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                415 GLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,198A
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us-10-004-219b-14.rai

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REFERENCE/DOCKET NUMBER: 294-26
                                                                                                                                                                        MOLECULE TYPE: protein HYPOTHETICAL: NO
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Sequence 4, Application US/09343623
Patent No. 6303118
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
                                                                                                                                                                                                                               203 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 262
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                                                                                                                                                         2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
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                                                                 52.8%; Score 1323; DB 4; Length 466; 52.2%; Pred. No. 1.4e-111; vative 70; Mismatches 126; Indels 2.
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STATE: New York
COUNTRY: United States of America
ZIP: 1178
COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
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APPLICATION NUMBER: US/09/343,623
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/486,839
FILING DATE: 07-June-1995
ATTORNEY/AGENT INFORMATION:
NAMME: BATON. ROMALG J.
REGISTRATION NUMBER: 29,281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Hoffmann & Baron
STREET: 350 Jericho Turnpike
                                                                   Query Match , 52.8%
Best Local Similarity 52.2%
Matches 240; Conservative
              MOLECULE TYPE: protein
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TOPOLOGY: linear
                ; MULECUE.
US-09-039-198A-2
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US-09-343-623-4
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GSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLSQ 181
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APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 6300 Sears Tower, 233 South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
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TELEFAX: (516) 822-3550
TELEFAX: (516) 822-3550
INFORMATION FOR SEQ 1D NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acids
TYPE: amino acid
STRANDEDNESS: unb---
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; Sequence 2, Application US/08877599
; Patent No. 6372212
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Matches 240; Conservative
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Sequence 4, Application US/09039198A Patent No. 6200951 GENERAL INFORMATION:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
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REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 276
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                                                                                                      Query Match
Best Local Similarity 52.2
Matches 240; Conservative
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                                   ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-267-574-2
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SEC ID NO 2
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52.2%; Pred. No. 1.4e-111;
ive 70; Mismatches 126; Indels
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APPLICANT: Gray, Patrick W.
APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
BARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
             CLASSIFICATION: 514
PRIOR APPLICATION DATA:
PAPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UTN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Heien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
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Patent No. 6399571
                                                                                                                                                                                                TELEFAX: 312/474-0448
TELEX: 25-3856
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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312/474-0448
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amino acid
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Best Local Similarity 52.2°
Matches 240, Conservative
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                                                                                                                                                                                                                                                                                                                          ; MOLECULE TYPE: protein US-08-877-599-2
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                                                                                                                                     62 LKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEYP
                                                                                                     2 OLICYFINWAQYRPGLGRFWPDNIDPCLCTHLIYAFAGRONNEITTIEWNDVTLYQAFNG
                                                        Gaps
                                                     24;
     Length 466;
52.8%; Score 1323; DB 4; Length 40
52.2%; Pred. No. 1.4e-111;
tive 70; Mismatches 126; Indels
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Born
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   426 GLYPNPRERSSFYSCAAGRLFQQSCPTGLVFSNSCKCCTW 465
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PatentIn Release #1.0, Version #1.30
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STATE: Illinois
COUNTX: United States of America
ZIP: 6060-6402
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us-10-004-219b-14.rai

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ATTORNEY/AGENT INFORMATION NAME: Rin-Laures, Li-Hs
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Best Local Similarity 52.0°
Matches 239; Conservative
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; MOLECULE TYPE: protein
US-08-877-599-4
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ORGANISM: Homo sapiens
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LENGTH: 466
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                                                                                                                                                                                                                                                                                                                                                   Length 466;
                                                                                                                                                                                                                                                                                                                                            52.6%; Score 1317; DB 4; Length 4 52.0%; Pred. No. 4.8e-111; ative 70; Mismatches 127; Indels
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall Office Address: Marshall Office Address: Marshall Office Address: Marshall Office Address: Marshall Office Address: Marshall Office Address: Marshall Office Address: Marshall Office Address: Marshall Office Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Address Add
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
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COUNTRY: United States of America
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
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APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase M.
(312) 474-6300
                                TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                     LENGTH: 466 amino acids
TYPE: amino acid
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Best Local Similarity 52.04
Matches 239; Conservative
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TELEPHONE:
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                                                                                                                                                                                                                          Length 466;
                                                                                                                                                                                                                       ; Score 1317; DB 4; Length 4, Pred. No. 4.8e-111; 70; Mismatches 127; Indels
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF EGQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
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; Sequence 4, Application US/09267574
; Patent No. 6399571
; GENERAL INFORMATION:
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TELEX: 25-3866
INFORMATION FOR SEQ ID NO: 4SEQUENCE CHARACTERISTICS:
LENGTH: 466 amino acida
TYPE: amino acid
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LENGTH: 373 amino acids
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                                                                                    Gaps
                                                                                    24;
                                             Length 466;
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233 South Wacker Drive/6300 Sears Tower
                                                                                  Indels
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APPLICANT: Tioelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
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                                         ; Score 1317; DB 4;
; Pred. No. 4.8e-111;
70; Mismatches 127;
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381 LRQELSLPYLPSGTPELEVPKPGQPSEP-
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NAME: Rin-Laures, Li-Heien
REGISTRATION UNDRER: 33,547
REBERENCE/DOCKET UNDRER: 2786
TELECOMMUNICATION INFORMATION:
TELEPAK: (312) 474-6300
TELEPAK: (312) 474-0448
INPORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                           52.6%;
                                                                                  Conservative
                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
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                                         Query Match
Best Local Simi
Matches 239;
    US-09-267-574-4
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62 LKKWNPKLKTILLAIGGWNFGTQKFTDMVATANNRQTFVNSAIRFLRKYSFDGLDLDWEYP 121
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                                                                                                                                                                                                                                                                                                   47.0%; Score 1177; DB 4; Length 373; 56.9%; Pred. No. 1.7e-98;
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APPLICANT: Gray, Patrick W.
APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: MATSHAll, O'Toole, Gerstein, Murray & Born
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/039,198A FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                             63; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 233 South Wacker Drive/6300 CITY: Chicago STATE: 111inois COUNTRY: United States of America ZIP: 60606-6402 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-D
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Patent No. 6200951
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NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
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FELECOMMUNICATION INFORMATION
TELEPHONE: (312) 474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (312) 474-6300
TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 15:
                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 56.9 Matches 209; Conservative
                                                     single
                                                                                                                                         MOLECULE TYPE: peptide
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TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: linear
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US-09-039-198A-14
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182 NLDFVNLMAYDFHGSWEKVTGHNSPLYKRQEESGAAASLNVDAAVQQWLQKGTPASKLIL 241
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                                                                                                                                                                                                                                                                                                                                                                                    2 KLVCYFTNWAQYRQGBARFLPKDLDPSLCTHLIYAFAGMTNHQLSTTEWNDETLYQEFNG 61
                                                                                                                                                                                                                                                                                                                                                           2 QLTCYFINWAQYRPGLGRFWPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                  47.0%; Score 1177; DB 4; Length 373; 56.9%; Pred. No. 1.7e-98; ative 63; Mismatches 93; Indels
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TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: MATSHAll, O'TOOle, Gerstein, Murray & Borun
STREET: 6300 Sears Tower, 233 South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIREALI CINCAGO
CITY: Chicago
STATE: 11110016
COUNTRY: United States of America
ZIP: 60606-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PLOPEY COMPUTER: PLOPEY COMPUTER: PLOPEY COMPUTER: PLOPEY COMPUTER: PLOPEY MS-DOS
SOFTWARE: PATCHIIN Release #1.0, Version #1.25
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APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-JUN-1996
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APPLICATION NUMBER: US/08/877,599
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Patent No. 6372212
GENERAL INFORMATION:
                         TELEFAX: 312/474-0448
TELEX: 25-386 .
INFORMATION FOR SEQ ID NO: 14
SEQUENCE CHARACTERISTICS:
LENGTH: 373 amino acide
TYPE: amino acide
STRANDEDNESS: single
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                                                                                                                                                                             TOPOLOGY: linear MOLECULE TYPE: peptide
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      TELEPHONE:
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US-08-877-599-15
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                                                                                                                                                                                                                                                                  2 QLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFNG
                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                Length 373;
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                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/08877599
Patent No. 637212
SENERAL INFORMATION:
APPLICANT: Gray, Patrick W.
TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patentin Release #1.0, Version #1.25
                                                                                                                                                                             Score 1177; DB 4;
Pred. No. 1.7e-98;
                                                                                                                                                                                                                         63, Mismatches
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UN-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: Illinois
COUNTRY: United States of America
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APPLICATION NUMBER: US/08/877,599
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COMPUTER REALABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 271
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                             47.0%;
SEQUENCE CHARACTERISTICS:
LENGTH: 373 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                  Best Local Similaria,
Matches 209; Conservative
                                                                                  TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362 LKKALGL 368
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360 LRQELSL 366
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56.9%; Pred. No. 1.7e-98;
iive 63; Mismatches 93; Indels
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APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: PATENTIN Ver. 2.0
                                                                                                                                                                                                                                                                            Score 1177; DB 4;
Pred. No. 1.7e-98;
                                                                                                                                                                                                                                                                                                            63; Mismatches
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              REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
TELEFAX: 312/474-6348
TELEFX: 25-3856
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 373 amino acids
Rin-Laures, Li-Hsien
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;y 56.9%;
                                                                                                                                                     LENGTH: 373 amino acids
TYPE: amino acid
STRANDEDNESS: single
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Patent No. 6399571

GENERAL INPORMATION:

APPLICANT: GRAPHER, Larry W.

TITLE OF INVENTION: CHITIASE CHITIN-BINDING FRACMENTS

FILE REFERENCE: 27866/35407

CURRENT APPLICATION NUMBER: US/09/267,574

CURRENT APPLICATION NUMBER: 09/039,198

EARLIER PILING DATE: 1999-03-12

BARLIER PILING DATE: 1998-03-12

NUMBER OF SEQ ID NOS: 39

SEQ ID NO 15

LENGTH: 373
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242 GMPTYGRSFTLASSSDTRVGAPATGSGTPGPFTKEGGMLAYYEVCSW--KGATKQRIQDQ 299
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Search completed: June 29, 2003, 21:03:29 Job time : 11.7788 secs

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-DB=GenEmbl -QFWT=fastap -SUFFIX=rge -MINNATCH=0.1 -LOOFCL=0 -LOOPEXT=0
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Listing first 45 summaries
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Identification of a novel acidic mammalian chitinase distinct from
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1625)
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Boot, R.G., Verhoek, M., Swart, E. and Aerts, J.M.
Direct Submission
Submitted (26-UI-2000) Dept. of Biochemistry, Academic Medical
Center, University of Amsterdam, Meibergdreef 15, Amsterdam 1105
AZ, The Netherlands
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novel member of chitinase family; TSA1902-L.
Homo sapiens CDNA to mRNA.
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                              ValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleValGlyPhePro
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                     ThrTyrGlyHisAsnPhelleLeuSerAsnProSerAsnThrGlyIleGlyAlaProThr
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TTTGAGCAGGAGGCCAAGCAGATCAACAAGCCCAGGCTGATGGTCACTGCTGCAGTAGCT
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Novel nucleic acids and polypeptides
Patent: WO 0222660-A 404 21-MAR-2002;
HYSEQ, INC. (US)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Sequence 404 from Patent WO0222660.
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AX405989.1 GI:21439417
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Mus musculus putative chitinase precursor (YNL) mRNA, partial cds.
AF154571. GI:6934189
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Price, P.A., Harris, S.C. and Williamson, M.K.
Direct Submission
Submitted (26-WAY-1999) Biology, University of California, San
Diego, 9500 Gilman Drive, Mail Code 0368, La Jolla, CA 92093-03687,
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Price, P.A., Harris, S.C. and Williamson, M.K.
YNL, A Putative Mouse Chitinase
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              ProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeuAsnValAspTyrVal
                                CCCCTCTACAAATACCCGACTGACACCCGCAGCAACGCCTACCTCAATGTGGATTATGTC
                                                                         MetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleValGlyPheProThr
                                                                                            ATGAACTACTGGAAGGACAATGGAGCACCAGCTGAGAAGCTCATCGTTGGATTCCCTACC
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Mus musculus
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                                                                                                                                             Submitted (16-MRR-1999) Akihiko Saito, Otsuka Pharmaceutical Co., Ltd., Otsuka GEN Research Institute, 463-10 Kagasuno Kawauchi-cho, Tokushima, Tokushima, 771-0192, Japan (E-mail:saito@otsuka.gr.jp, Tel:81-88-665-2888, Fax:81-88-637-1035)
Location/Qualifiers
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         (leites)
Saito, A., Ozaki, K., Fujiwara, T., Nakamura, Y. and Tanigami, A.
Isolation and mapping of a human lung-specific gene, TSA1902, encoding a novel chitinase family member
Gene 239 (2), 325-331 (1999)
                                                                                                 2 (bases 1 to 1354)
Saito,A., Qzaki,K., Fujiwara,T., Takahashi,E. and Tanigami,A.
Direct Submission
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
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Mus musculus, Similar to eosinophil chemotactic cytokine, clone
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1021 TTCAGTGTTAAGGCTCAGTGGCTTAAGCAGAACAATTTTGGAGGTGCCATGATCTGGGCC
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/producid="putative chitinase precursor"

/db xref="d1:691490"

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MREAFEQBALESNRPRLMVTAAVAGGISNIQAGYEIPELSKYLDFIHVMTYDLHGSWE
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DNGIGAPTSGODGPAGPYTROGGFWAY YEIGTFELSGATEWNDAGQBVPYAYKANEWLG
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394. 417
/gene="YNL"
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| KALGISTEGCTAPDVPSEPVTTPPGSGGGSSGGSSGGSGGCADKADGIYPVADDRN
| AFWQCINGITYQQHCQAGLYPDTSCNCCNWP" |
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Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Parayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Baylor College of Medicine Human Genome,
Sequencing Center.
Center code: BCM-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M.,
Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M.,
Richards, S., Gibbs, R.A.
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                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 1538)
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                                                                                                                                                          Direct Submission
Submitted (25-UUL-2001) National Institutes of Health, Mammalian
Gene Collection (MGC), Cancer Genomics Office, National Cancer
Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Clone distribution: MGC clone distribution information can be for through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 24 Row: e Column: 11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mouse"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21 MetProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArg
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/note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1538
370
40
41
1
   MGC:18771 IMAGE:4165150, mRNA, complete cds.
                                                                                                                                                                                                                                      NIH-MGC Project URL: http://mgc.nci.nih.gov
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Mismatches:
Indels:
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Matches:

    .1538
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                                 BC011134.1 GI:15029821
MGC.
                                                                                                                                                                                                                                                     Contact: MGC help desk
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2097.50
90.31%
81.50%
83.70%
                                                                                                                                            Strausberg, R.
                                                                house mouse:
Mus musculus
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
                ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
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ORIGIN
                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                      REMARK
COMMENT
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161 AlaAlaValAlaAlaGlyIleSerAsnIleGlnSerGlyTyrGluIleProGlnLeuSer 180
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                                                                                                                                                                                                                                                                                                                                                                        67 TACAATCTGATATGCTATTTCACCAACTGGGCCCAGTATCGGCCAGGTCTGGGGAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                         21 MetProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArg
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrGlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AsnValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIle
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MetArgGluAlaPheGluGlnGluAlaLysGlnIleAsnLysProArgLeuMetValThr
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Matches:
Conservative:
Mismatches:
Indels:
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2097.50
90.31%
81.50%
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Best Local Similarity:
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                                                                                                                                                                                                                                                                     1557 bp mRNA linear ROD 07-AUG-2002
Mus musculus, chitinase, acidic, clone MGC:19045 IMAGE:4189080,
mRNA, complete cds.
                                                                                                                           found
GAGCCAGTGACTACTCCTCCA-----GGAAGTGGGAÄGTGGGGGGTGGAAGCTCCGGA 1252
                                                                                                            440
                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
Kakaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Bukampalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
1 (bases 1 to 1557)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequencing Center
Center code: BCM-HGSC
Center code: BCM-HGSC
Contact: amg@bcm.tmc.edu/cdna/
Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M.,
Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M.,
Richards, S., Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (24-JUL-2002) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="MGC:19045 IMAGE:4189080"
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through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Series: IRAK Plate: 24 Row: h Column: 16
                                                     GlySerSerGlyGlySerGlyPheCysAlaValArgAlaAsnGlyLeuTyrProValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This clone was selected for full length sequencing because it passed the following selection criteria: Similarity but not identity to protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Baylor College of Medicine Human Genome
                                                                                                                                                                                                    GCAGGCTTGTTTTGATACCAGCTGTAATTGCTGCAACTGG 1414
                                                                                                                                                                               AlaGlyLeuValPheAspThrSerCysAspCysCysAsnTrp 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. 1557
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BC034548.1 GI:21961190
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1202
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VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                           DEFINITION
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                                                                                                                                                                                                                                                     RESULT 6
BC034548
LOCUS
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COMMENT
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FILENP
KANEWL
LGISTE
DLHGSW
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EMRENERGEA IESUR RELMOYTAN VAGGISINIO QAGYEL PELSKLLIOET I VMTYT EGYTGERS PLYKY PTETGSRNYTLN VDYWAY WIKKINGARARELLI VGF PEYGHTF SDNGIGA PTSGDGPAGPYTROAGFWAYYEL CTFLRSGATEVWDASOEV PYAY W GYDNIX SFSYKAQWIKKONN FGGAMIWA I DLDDFTGS FCDGCKF PLTSTLNKAL GCTRAPDV PSEPVTTP PEGSGSGGGS SGGSSGGS SGGSGFCADKADGLY PVADDRNAFW I TYQQHCQAGLV PDTSCNCCNWP" 382 c 366 g 399 t
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| GYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLTSTLNKALGISTE

| GCTAPDYPSERVTTPFGSSGGGGSSGGSSGGCANKADKADGNNAFWQCING
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186 CAGAACAATGAGATCACCACCATAGAATGGAATGATGTTACTCTCTATAAAGCTTTCAAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141 MetArgGluAlaPheGluGluGluAlaLysGlnIleAsnLysProArgLeuMetValThr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221 AsnValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIle
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369
40
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3
                note="chitinase precursor; AMCase"
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Conservative:
Mismatches:
Indels:
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Mus musculus acidic mammalian chitinase precursor, mRNA, complete
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BDOC, R.G., Blommaart, E.F., Swart, E., Ghauharali-van der Vlugt, K., BJ1, N., Moe, C., Place, A. and Aerts, J.M. Identification of a novel acidic mammalian chitinase distinct from chitotriosidase
3. Biol. Chem. 276 (9), 6770-6778 (2001)
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Boot,R.G., Verhoek,M., Swart,B. and Aerts,J.M.
Direct Submission
Submitted (26-JUL-2000) Dept. of Biochemistry, Academic Medical
Center, University of Amsterdam, Meibergdreef 15, Amsterdam 1105
AZ, The Netherlands
                                                                                                  GGTGCCCCTACCTCTGGTGATGGCCCTGCTGGGCCCCTATACCAGACAGGCTGGGTTCTGG
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                                                                                                                                                                        PheaspileLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAla
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strain="BALB/c"

/d_xref="taxon:1000"

sex="male"

/tissue_type="lung"

/dev stage="9-11 weeks"

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AUTHORS
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TCNASTQSSEPNSSPGNESGSGNKSSSSEGRGYCAGKADGLYPVADNRNAFWNCVNGI
TYKQNCLTGLVFDTSCHCCNWA"
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1, .1529
                             organism="Bos taurus
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Direct Submission
Submitted (123-NOV-2000) Masako Suzuki, Iwate University, Department
of Veterinary Medicine, Faculty of Agriculture; Ueda 3-18-8,
Morioka, Iwate 020-8550, Japan (E-mail:u9998001@iwate-u.ac.jp,
rel:81-19-621-6212)
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Bos taurus
Eukaryota, Metazoa; Chordata, Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
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                                                                                                                                                                                              GlnGluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSer
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                                                                       ValGlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIle
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                Saito, A., Ozaki, K., Fujiwara, T., Takahashi, E. and Tanigami, A. Direct Submission
Submitted (16-MAR-1999) Akihiko Saito, Otsuka Pharmaceutical Co., Ltd., Otsuka GBN Research Institute; 463-10 Kagasuno Kawauchi-cho, Tokushima, Tokushima, T71-0192, Japan (E-mail:saito@otsuka.gr.jp, Tel:81-88-665-2888, Fax:81-88-637-1035)
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N Homo sapiens TSA1902-S mRNA for novel member c
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Sugano, S. and Suzuki, Y.
Direct Submission
Submitted (08-ULI-2002) Sumio Sugano, Institute of Medical Science,
University of Tokyo, Laboratory of Genome Structure, Human Genome
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Kodaira,H., Furuya,T., Takahashi,M., Kikkawa,E., Omura,Y., Abe,K.,
Kamihara,K., Kateuta,N., Sato,K., Tanikawa,M., Yamazaki,M.,
Suzuki,Y., Hata,H., Nakagawa,K., Mizuno,S., Morinaga,M.,
Kawamura,M., Sugiyama,T., Irie,R., Otsuki,T., Sato,H.,
Nishikawa,T., Sugiyama,A., Kawakami,B., Nagai,K., Isogai,T. and
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EMRKAFEEESVEKDI PRLLLTSTGAGI IDVIKSGYKI PELSOSLDYI QVMTYDLHDDK
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Chang, N.-C'A., Liu, C.-H. and Chang, A.C.
Molecular characterization of a secretory protein (YM-1)
Transiently expressed by activated murine peritoneal macrophages Unpublished
2 (bases 1 to 1525)
Chang, N.C., Hung, S.I., Hwa, K.Y., Kato, I., Chen, J.E., Liu, C.H. and
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Direct Submission
Submitted (27-APR-1993) Microbiology and Immunology, National
Submitted (27-APR-1993) Microbiology and Immunology, National
112, R.O.C.
4 (bases 1 to 1525)
Chang, N.-C.A., Liu, C.-H. and Chang, A.C.
Direct Submission
Submitted (13-NOV-2000) Microbiology and Immunology, National
Submitted (13-NOV-2000) Microbiology and Immunology, National
                                                   PheCygAsnGlnGlyLysPheProLeuIleSerThrLeuLysLysAlaLeuGlyLeuGln
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Sequence update by submitter
Sequence update by submitter
On Nov 13, 2000 this sequence version replaced gi:202441.
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1. .1525
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/dev_stage="adult" lambda ill and zapii"
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GYDNVRRFKLKAQWLKDNNLGGAVVWPLDMDDFSGSFCHQRHFPLTSTLKGDLNIHSA
SCKGPY"
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/product="ECF-L
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Owhashi, M., Arita, H. and Hayai, N. Identification of a novel eosinophil chemotactic cytokine (ECF-L) as a chitimase family protein J. Biol. Chem. 275 (2), 1279-1286 (2000)
CAGTCTTCTTGACTATATTCAGGTCATGACATATGATCTCCATGATCCTAAGGATGGCTAC
                                                                                                                                                                  GTGGGATTTCCAGCATATGGGCATACCTTTATCCTGAGTGACCCTTCTAAGACTGGAATT
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                             ThrGlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (06-SEP-1996) Makoto Owhashi, The University of Tokushima, Faculty of Integrated Arts and Sciences; 1-1 Minami-Johsanjima, Tokushima, Tokushima, 770, Japan (E-mail:0hashi@ias.tokushima-u.ac.jp, Tel:0886-56-7261, Fax:0886-56-7289)
On Oct 7, 1999 this sequence version replaced gi:1545818. Sequence updated (05-Oct.1999).
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Mus musculus mRNA for ECF-L precursor, complete cds.
D87757
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ECF-L precursor.
Mus musculus bone marrow cDNA to mRNA.
Mus musculus
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1. .1506
/gene="mECF-L"
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Owhashi, M.
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PAPESSMYSTPONROYPETKYLKEYTRENGYNFOCLILAIDMOYPGSRSGSPROKHLESVLVO
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TCCACAGGAGCTGGATTCATTGACGTAATCAAGTCTGGGTACAAGATCCCTGAACTGTCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (166-AUG-2002) Biochemistry and Molecular Biology, John Curtin School of Medical Research, Australian National University, Off Mills Rd, Acton, Canberra, ACT 2601, Australia Sequence update by submitter sequence update by submitter Location Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Webb, D.C., McKenzie, A.N. and Foster, P.S.
Expression of the Ym2 lectin-binding protein is dependent on interleukin (IL) 4 and IL-13 signal transduction: identification a novel allergy-associated protein
J. Biol. Chem. 276 (45), 41969-41976 (2001)
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                                                                                            ValGlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIle
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.124. .2423
note="LIMA8 repeat: matches 4981. .6290 of consensus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="Linz repeat: matches -481. .-178 of consensus" 3030. .23465
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note="LIM1 repeat: matches 1038. .1482 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note="LiP repeat: matches 1474. .3692 of consensus"
8132. .18167
note="18 copies 2 mer at 100% conserved"
8172. .18464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9535. .20632
note="L1M2 repeat: matches 736. .1831 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="L1M1 repeat: matches 588. .1014 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="MER34 repeat: matches 366. .545 of consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note="Alusx repeat: matches 11. .308 of consensus" 3765. .23805 note="LIM1 repeat: matches 1014. .1467 of consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .200 of consensus"
                                                                                                                                                             4188. .4263
/note="L2 repeat: matches 2647. .2707 of consensus"
4235. .4469
/note="MIR repeat: matches 2. .233 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note="L2 repeat: matches 2151. .2708 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3823. .29973
note="LIPA3 repeat: matches 3. .6146 of consensus"
                                                                             note="MER5A repeat: matches 62. .106 of consensus"
                                                                                                                                                                                                                                                                                                 repeat: matches 2403. .2689 of consensus"
                                                                                                                                                                                                                                                                                                                                                    .2264 of consensus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .294 of consensus"
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note="MIR repeat: matches 46. .208 of consensus"
0503. .30925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3777. .13959
note="MIR repeat: matches 66. .252 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3062. 13198
note="MIR repeat: matches 8. 151 of consensus"
3777. 13959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="MIR repeat: matches 3. .237 of consensus"
0776. .11310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="Tigger3 (Golem) repeat: matches 1. .3038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note="L1MA4A repeat: matches 4920. .6296 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0707. .21692
note="LIPA12 repeat: matches -386. .592 of 6
1953. .22250
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37440. .37587
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note="MLTIJ repeat: matches 137.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note="L1M3b repeat: matches -32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1933. .12403
note="L2 repeat: matches 2244.
2708. .12870
                                                                                                                                                                                                                                                                                                                                                       repeat: matches 1707.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note="AluSq repeat: matches 1.8465. .19535
                                                                                                                                                                                                                                                                                                                                                                                                                repeat: matches 2628.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note="AluSx repeat: matches 1.
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16220. .36267
note="24 copies 2 mer tt |
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/note="L2 rer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (11-JUL-2001) Sanger Centre, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
On Jul 13, 2001 this sequence version replaced gi:14455880.
During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em; EMBL; Sw; Swisserdy; Tr:, Tremel, WP: WORWPEP; Information or the WORWPEP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IMPORTANT: This sequence is not the entire insert of clone RPS-1125M8 It may be shorter because we sequence overlapping sections only once, except for a 100 base overlap. The true left end of clone RPS-1125M8 is at 1 in this sequence. The true left end of clone RPS-1152M1 is at 89570 in this sequence. The true right end of clone RPI1-552M1 is at 31542 in this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Purther information can be found at
rrcaagrrgaaggcrcagggcrcaaggacaacaarrraggaggrgccgrggrcrggccc 1083
                                                                                                                                                                                                                         1084 CTGGACATGGATGATTCATTCTTTCTGTCACCAGGGACGTTTCCCTCTGACAACT 1143
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Human DNA sequence from clone RP5-1125M8 on chromosome 1p13.1-13.3,
                                                                                                                                                                                          341 IleAspLeuAspAspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSer 360
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 91569)
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RP5-1125M8 is from the library RPCI-5 constructed by the group of
Pieter de Jong. For further details see
                                                                                   PheAspileLysAlaGinTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAla
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AL356387
AL356387.16, GI:14715669
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llington, A

AUTHORS REFERENCE

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AL356387

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FEATURES

Pred. N Score: Percent Best Lo Query M	. No.: e: Similarity: Local Similarity / Match:	7.47e-94 1362.50 34.12% 33.80% 54.37%	Length: Matches: Conservative: Mismatches: Indels: Gaps:	91569	
US-1(	0-004-219B-14 (1-	455) x AL356387	(1-91569)		
<i>§</i> €	130 AspLysH     	isLeuPheThrValle	uValGlnGluMetArg	AspLysHisLeuPheThrValLeuValGlnGluMetArgGluAlaPheGluGlnGluAla 14	49
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S 8	22 2	TCAACAAGCCCAGGCT	GATGGTCACTGCTGCA		381
ò	170 Ilegluse	erGlyTyrGluIleProGlnLeuSer	oGlnLeuSerGln	181	81
q		- 15 - 15 - 15 - 15 - 15 - 15 - 15 - 15	_გ_	 GTGAGTGATGTGCCTTATCTTCAAA 64	441
ò	181			18	81
qq	6442 CTCCTGG	AGGTGTCACTCGGGCA	CACTAGACTTGTCCTT	CTGGAGGTGTCACTCGGGCACACTAGACTTGTCCTTGGTCTGGCTTGCTATTCAGGG 65	501
à	181			18	81
qa	6502 ACCTTGT	TTAGGAGACTTTAGAA	GTGGTGTCCTGTGCCT	ACCTTGTTTAGGAGACTTTAGAAGTGGTGTCCTGTGCCTGCATAGGTGTGGGAAATGACC 65	561
ò	182		TYE	n-	83
qa	6562 ATCAGAA	TGATTTTAAATCCTCC	ACCCCACCTCAGGTAC	9	621
λŏ	190 ThrTyrA	spleuHisGlySerTr	pGluGlyTyrThrGly	ThrTyrAspLeuHisGlySerTrpGluGlyTyrThrGlyGluAsnSerProLeuTyrLys 20	60
q	6622 ACCTACG	Accrecarderrere	GGAGGCTACACTGGA	9 -4	681
ò	210 TyrProT	TyrProThrAspThrGlySerAsnAl	aTyrLeuAsnVal		22
eg C	6682 TACCCGA	CTGACACCGGCAGCAA	CTACCTCAATGT	GTGAGTCCCTGTACAGATGC 6	740
ò	222			23	22
QQ	6741 AAGAGCAGAC	GACCAGAGATGATGAT	CAGAGATGATGATGAAAATCACATAGAGATT	CAGGCACAAAAGGCATCAT 6	800
ò	222			22	22
qq	6801 AAGTTTA	AAGTTTAGTGGTTTTCTCAAATG	CAAATGGGAAATTAGGCTGCCA	CTGCCATAATTAAATAATTCTCAT 68	860
ò	222			25	22
Q	6861 TTAATTT	CACACAGAGACTGGGA	CACAAAGTAAACATAA	TTAATTTCACACAGAGACTGGGACACAAAGTAAACATAAATTCTGCAAGTGTCTCACTTA 69	920
à	222			25	22
qq	6921 AACAACT	GTCCTCAAGTTGATCG	TATTTCATTAACTACA	AACAACTGTCCTCAAGTTGATCGTATTTCATTAACTACAACTTCACCAAAATGTTTTGAA 69	980
ò	222			25	22
q	6981 AAAAATA	CTAATCCATCTGGAAT	TAACAGCATAGAGTTT"	aaaaatactaatccatctggaattaacagcatagagttttacctgtcggaataggggact 70	040
ò	222			23	. 22
Ωp	7041 AATATAA	CTAAGTACTGGGTCCT	CAGCTGGTTGGGCCAT	AATATAACTAAGTACTGGGTCCTCAGCTGGTTGGGCCCATGTAACTAAC	001
ò	223AspT	yrValMetAsnTyrTr	pLysAspAsnGlyAla	AspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeulleVal 24	41
qq	7101 CAGGATT	ATGTCATGAACTACTG	GAAGGACAATGGAGCA	ccascrsasaacrcarcerr 71	160
ò	242 GlyPheP	roThrTyrGlyHisAs	nPhelleLeuSerAsn	GlyPheProThrTyrGlyHisAsnPhelleLeuSerAsnProSerAsnThrGlylleGly 26	61
ପୁ	7161 GGATTCC	CTACCTATGGACACAA	crrcarccraagcaac	7	220

કે ક	262 AlabroThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGly1leTrpAla 281	Db 8301	TGCTAAGTCTTAAGGGTGTG
3 8	02	Oy 372	
; a		Db 8361	CTGCTTCTCTATGAATCCCT
ò	2884		
6	AGGGCTAGAATCTGCTGAAATGTTCATTCTGTCTCCTACCTA	<b>60</b>	AACCTCACCAATGCTCACA
ð			
Вр	7401 CACAGCTGCTTAAAGTGTTTAAATAGCATTCATTTACATAATCCAAATGAATAGCATTTA 7460	ω	AATTTTTCCAGATTTTTCC
õ	284 284		
o qo	7461 ACAATGCATAATATCCCTTCACACAACAGACTACCTTTTAAATGTAATTTATATATGCAC 7520	ω	AAGTGTTTTGCATACATTTG
ò	284 284		
සි	7521 ACAGGTAATAAAATAAATATACCTCTCATATTACTGTGGGTTCCCAAAATCATTTGACAA 7580	20	AGGAAGGCAACCTTTTTT
à	284 284		
q	7581 GCAACTTGATCCTCTTTACTACAAATAAAACCTGTAACTAGAAATTGAGCAAAACCCCA 7640	20	TATCICCIGAATAIGGAGC
ò	284 284		
Q Q	7641 ACTGGAGACATGAAAGAAGAAAATTTGAAACATGTTTTTCTTTAATGGGAGTAACATTT 7700	20	ACCCACCICCACACITICCA
ò	285		
g G	7701 AATAGATTTGAATCTCTTGACTTTTGAAGATCTGTACCTTCCTGAAAATGGAGCCACT 7760	ω	-
š	295 GlnGlyTrpAspAlaProGlnGluValProTyrAlaTyrGlnGlyAsnValTrpValGly 314		GlnProlleGluProlleTh
g	7761 CAGGATGGGATGCCCCTCAGGAGTGCCTTATGCCTATCAGGGCAATGTGTGGGTGG	ω	
à	315 TyrAspAsnileLysSerPheAspileLys324		SerSerGlyGlySerSerGl
Dp		ω	
à	325Ala 325	,	ProvalAlaAsnAsnArgAs
Q Q	7881 CCCAGCCCTGAGTCCCCAGGAAAGCAAGTGATTCCTGTTATCCTCTTTCTT	988	
'n	326 GlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaileAspLeuAspAsp 345	Qy 438	AsnCysGlnAlaGlyLeuVa 
a G	7941 CAATGCTTAAGCACAACAAATTTGGAGGCGCCATGGTCTGGGCCATTGATCTGGATGAC 8000		
à	346 PheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSerThrLeuLysLysAla 365	Search complet	ted: June 29, 2003, 2
QQ	8001 TICACTGGCACTTTCTGCAACCAGGCCAAGTTTCCCCTAATCTCCACCTGAAGAAGGCC 8060		;
ò			
a a	8061 CTCGGCCTGCAGAGGAAGTAAGTGACTGAGGGGGAATGCCCAGGTGTATAAATACCCC 8120		
ò	372 372		
QQ	8121 TTCTCCAACTCAAAAAGCAACCCTGATGTCTTCCCACCTCCCCCTTGCCCAGGGATCCTC 8180		
à	372 372		
q	8181 TTTCCACTTCACCTCACCGCTCTTGCCCAGATGAGAGACAGGTTTTACCCTTGAACGGCC 8240		
à	372 372		
qq	8241 ATGTCAGGAACATTGTGCACTTATGGGAAGCCAGGCCTAACTGGGTGGG		
ò	372 372		

GGAAGAGCCTCAAGAAATTATACTAACATCAATATAAGTAT 8360 TTATTCAAAATCTTTCTCAGCCCACCTGGGGAGATTTAAGA 8420 SATATCTCTAATCAGTGATTCAGGGGATGTATCAATTCTCTA 8480 CTAGAATTTATTGTTCACCATTTATGCCCAGATTCTAGAA 8540 GGTGGTTAGTAAATTTTTTTTTGAATGATTTAGATGTTATA 8600 TTACAATTAAAAGCCAGGCTGGCTTGACACAATAGCTTTAT 8660 SCTACTTTCTCTCTCAGTTGCAGGATCCAGAGCCAACTGC 8720 IlyGlySerGlyPheCysAlaValArgAlaAsnGlyLeuTyr 417 SABALAPHETTPHISCYSVALASNGIYVALTHTYTGINGIN 437 ACTCCCACAGTTCTCTTCACCTCTAGGTGAAGCTTAGAGCC 8780 372 372 

23:54:31

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Disease treatment; infection; chronic occlusive pulmonary disease; bronchial asthma; ds.
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                                                                                                                                                                                                                       The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligonucleotide described in the exemplification of the invention.
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antiinfertility; cerebroprotective; cytostatic; rheumatic; gene therapy;
neuroprotective; antiparkinsonian; protein therapy; BST;
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                                                                                                                                                                                                                                                                                                      The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligonucleotide described in the exemplification of the invention.
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                                                                                                                   SerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrpAlaTyrTyrGlu
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                                                                                                                                                                                                                                                             The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTS). They can be used to stimulate cell growth, to regulate haematopolesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat stroke and cancer, to screen for drugs, to treat inflammatory conditions e.g. theumatoid arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a coding sequence of the
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                                                                                                                                                                                 An isolated polynucleotide for treating diseases associated with its encoded polypeptide such as cancer and multiple sclerosis \dot{\tau}
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Matches:
Conservative:
Mismatches:
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RT;
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T, Drmanac
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Yang Y, Wehrman
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P-PSDB; ABB97580.
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Best Local Similarity:
Query Match:
DB:
                                                  (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1369
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Pred. No.:
                                                                               Tang YT,
Xue AJ,
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                                                   GlyAlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrp 280
                                                                                                                                                             GlnGluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSer 320
               ValGlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIle
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/note= "from clone MO-218"
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                                                                                         The present invention provides the sequence of a protein which can be used in the treatment and prevention of infectious diseases. Inhibitors of the protein can be used to treat bronchial asthma and chronic occlusive pulmonary disease. The present sequence is an oligomucleotide described in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                         CAGAATAATGAGATCACTTACACACGAGGCAAGACTTGCGTGACTATGAAGCATTGAAT
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TCCACAGGAGCAGGAATCATTGACGTAATCAAGTCTGGGGTACAAGATCCCTGAACTGTCT
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                         New proteins, peptides and DNA for treatment of bronchial asthma chronic occlusive lung disease and infectious disease -
                                                                                                                                                                            Sequence 1469 BP; 406 A; 331 C; 332 G; 400 T; 0 other;
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256
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                   Disclosure; Page 106; 114pp; Japanese.
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1415.00
80.85%
68.09%
56.46%
  WPI; 2001-397791/42
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1337 TTCCAGCAAAGCTGCCCGACAGGCCTGGTGTTCAGCAACTCCTGCAAATGCTGCACCTGG 1396
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908 TACTATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAATCCAGGATCAG
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222 ValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleVal
                                                                               AlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrpAla
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                   GlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIleGly
                                                                                                                                                         AspLeuAspAspPheThrG1yThrPheCysAsnG1nG1yLysPheProLeuIleSerThr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           chitin; fungal infection; immunocompromised; AIDS; chemothe organ transplant; parasite; chitin-binding; allele; vector; truncated protein; ds.
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/*tag= a
/product= Human_Chitinase
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/product= Signal_peptide
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                          This sequence encodes a novel human chitinase isolated from clone MO-218. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage antifungal agents and may allow a reduction in the dose of such agents, and thus of their side effects.
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Matches:
Conservative:
Mismatches:
Indels:
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 Claim 3; Page 38-40; 63pp; English
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This is the nucleotide sequence of an allelic form of the human chitinase enzyme, which is capable of degrading Chitin (a linear hourinase enzyme, which is capable of degrading Chitin (a linear homopolymer of beta-1,4-linked N-acety1glucosamine residues).

Chitinase fragments can be used to screen for proteins or other molecules that specifically bind to the chitin-binding domain of human chitinase or that modulate its activity. These compounds are useful for immunization, as well as for purifying chitinase, as well as for the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungi. Fungal infection treated include candidiasis, aspergillosis, coccidioidomycosis, histoplasmosis, paracoccidioidomycosis, sporotrichosis, and dermatophycoses.

Chitin can be degraded by the enzyme chitinase of whole chitinase
                                                                                                                                                                                                                                                                                                                                                                                   Novel chitin-binding fragments of human chitinase used to treat fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life-threatening fungal infection in e.g. immunocompromised individuals, there exists a need for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other;
/product= Mature protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 1; Page 55-57; 83pp; English
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                                                                                                                                 12-MAR-1999;
                                                                                      16-SEP-1999
                                                                                                                                                                                                                                                                    Gray PW,
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1636 240 70 126 24 3		2 GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet 21	68 AAACTGGTCTGCTACTTCACCAACTGGCCCAGTACAGACAG	22 ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln 41	128 CCCAAGGACTTGGACCCCAGCCTTTGCACCCACCTCATCTACGCCTTCGCTGGCATGACC 187	42 AsnAsnGlulleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly 61	188 AACCACCAGCTGAGCACCACCACGAGTTGAATGACGAGACTCTCTACCAGGAGTTCAATGGC 247	62 LeuLysAsnLysAsnSerGlnLeuLysThrLeuLeuAlalleGlyGlyTrpAsnPheGly 81	CIGAAGAAGATGAAGCTGAAGACCCTGTTAGCCATGGAGGCTGGAATTTCGGC 307
Length: Matches: Conservative: Mismatches: Indels:	47 (1-1636)	rAsnTrpAlaGlnTyrArc	CAACTGGGCCCAGTACAG	sLeuCysThrHisLeuIl	CCTTTGCACCCACCTCAT	eGluTrpAsnAspValTh	TGAGTGGAATGACGAGAC	nLeuLysThrLeuLeuAla	SAAGCTGAAGACCCTGTTAGC
2.35e-111 1323.00 67.39% 52.17% 52.79%	US-10-004-219B-14 (1-455) x AAZ21847 (1-1636)	nrCysTyrPheThrAsnTr	rcrecracricae	snileAspProCy	ACTIGGACCCCAG	nAsnGluIleThrThrIleC	AGCTGAGCACCAC	snLysAsnSerGl	AGATGAATCCCAA
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Alignment Scores: Pred. No.: Score: Bercent Similarity: Best Local Similarity Query Match:	0-004-219	CA.	68	22	128	4	186	62	248
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1142 CTACGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1201 962 AAGGIGCCCIACAICTICCGGGACAACCAGIGGGIGGGCTITGAIGAIGAIGAGAAGCIIC 1021 322 AspileLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaile 341 AspLeuAspAspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSerThr 361 395 GlySerSerSerGlyGlySerSerGlyGlySerGlyPheCygAlaValArgAlaAsn 414 GluvalProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSerPhe 321 LeuLysLysAlaLeu-------GlyLeuGlnSerAlaSerCysThr 374 GlyLeuTyrProValAlaAsnAsnArgAsnAlaPheTrpHisCysValAsnGlyValThr 434 427 GlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMet 141 608 AACCTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAGAAGGTCACG 667 GlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeuAsn 221 ValAspTyrValMetAsnTyrTrpLy8AspAsnGlyAlaProAlaGluLysLeuIleVal 241 787 GlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIleGly 261 AlaproThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrpAla 281 TyrTyrGlulleCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaProGln 301 |||||||||||:::||||::::|| TACTATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAATCCAGGATCAG 961 375 AlaProAlaGlnProIleGluProIleThrAlaAlaProSerGlySerGlyAsnGlySer 394 435 TyrGlnGlnAanCysGlnAlaGlyLeuValPheAspThrSerCysAspCysCysAsnTrp 454 GGAAGCCAGGGGAGCCCTGCCGTAGACAAGGAGCGCTTCACAACCCTGGTACAGGACTTG 487 AlavalAlaAlaGlyIleSerAsnIleGlnSerGlyTyrGluIleProGlnLeuSerGln 181 TyrLeuAspTyrlleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr 201 ThralapropheThralaMetValSerThrProGluAsnArgGlnThrPheIleThrSer 101 -----GAGCATGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGAT Acteagaagticacagatatégtagecacégecaacaacaceteagacetrieteaacteg 102 ValileLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyrPro 368 GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCA 142 ArgGluAlaPheGluGlnGluAlaLysGlnIleAsnLysProArgLeuMetValThrAla 908 1082 415 82 308 122 428 182 202 899 222 728 242 262 848 282 302 342 362 1226 162 788 <u></u> 8 용 유 ò 요 셤 g ð 원 셤 ઠે 유 ઠે g ò 셤 ð 원 ð à g ò 셤 ò 쉱 ·\$ 십 ð ò g δ 8 ઠ Š

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AlaValAlaAlaGly1leSerAsnIleGlnSerGlyTyrGluIleProGlnLeuSerGln
                                                                                                                                                                                            248 CTGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGTGGAATTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    142 ArgGluAlaPheGluGluAlaLyBGlnIleABnLyBProArgLeuMetValThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        488 GCCAATGCCTTCCAGCAGGAAGCCCAGGAAGGAAGGCTTCTTCTGAGTGCA
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                                                                                                                                                                                                                                                                  ThralaProPheThralaMetValSerThrProGluAsnArgGlnThrPheIleThrSer
                                                                                                                                                                                                                                                                                                                                                                                                           102 ValileLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182 TyrLeuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSerPhe
                                                                                                                                                                                                                                                AsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly
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Mismatches:
Indels:
                                                                     US-10-004-219B-14 (1-455) x AAD03759 (1-1636)
52.17%
52.79%
22
 Local Similarity:
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1337 TTCCAGCAAAGCTGCCCGACAGCCTGGTGTTCAGCAACTCCTGCAAATGCTGCACCTGG 1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (wycoses) such as candidiasis, aspergillosis, blastomycosis, coccidioidomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion protein is also useful for preparing a medicament for the prophylactic or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation properties. The present sequence is human chitinase copy, from clone pholo-218. Chitinase enzyme degrades chitin which is a homopolymer of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment -
                                                                                                                                                                                                                             Human; antifungal; chitinase; immunoglobulin; Ig; therapy; fungal infection; candidiaats; appergillosis; cocidioidoidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sportichosis; mucormycosis; dermatophytoses;
                                                                                                                                                                                                                                                                                                                                                                                       2.1402
/*tag= a
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2.64
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65.1339
/product= "Human mature chitinase from clone pMO-218"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          440 G; 344 T;
                                                                                                                                                                                              Human chitinase cDNA from clone pMO-218.
                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 2; Page 29-31; 39pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP; 361 A; 491 C;
                                                                                       CDNA; 1636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-SEP-2000; 2000WO-US26960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0409918
                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Allison DS, Dietsch GN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-266141/27.
P-PSDB; AAE00432.
                                                                                       AAD03759 standard;
                                                                                                                                                                                                                                                                                                     clone pMO-218; ss.
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                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                           19-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                            sig_peptide
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                                                                                                                        AAD03759
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Length: Matches: Conservative:

2.35e-111 1323.00 67.39\$

Percent Similarity:

Alignment Scores: Pred. No.:

322 AspileLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaile

847

261

281 907 301

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13.7 TTCCAGCAAAGCTGCCCGACAGGCCTGGTGTTCAGCAACTCCTGCAAATGCTGCACCTGG 1396
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CTACGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1201
                                                                                                                                                                                                                                                  395 GlySerSerSerGlyGlySerSerGlyGlySerGlyPheCygAlaValArgAlaAsn 414
AspleuAspAspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSerThr 361
                                                                                                                                                                                                                                                                                                                               GlyLeuTyrProvalAlaAsnAsnArgAsnAlaPheTrpHisCysValAsnGlyValThr
                                                                              ---GlyLeuGlnSerAlaSerCysThr
                                                                                                                                                               375 AlaProAlaGlnProIleGluProIleThrAlaAlaProSerGlySerGlyAsnGlySer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chitinase, enzyme; human; fungicide; antifungal; infection; candidiasis; aspergillosis; coccidioidomycosis; blastomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosi; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis;
                                                                                                                                                                                                       1202 AAACCAGGTCAGCCTCTGAACCT-------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Chitinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human chitinase cDNA clone MO-218
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                                                                                   LeuLysLysAlaLeu-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABL57380 standard; cDNA; 1636
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the present sequence is that of the cone was isolated from a conding human chitimase (see ABB7629). The clone was isolated from a cDNA library prepared from peripheral blood monocyte-derived macrophages following sequence analysis. Also isolated was clone MO-13B (see ABB75381), which contains a single nucleotide difference in the coding region, changing the encoded amino acid at position 81 of the mature protein from glycine to serine. Northern blots showed highest chitinase gene expression in lung and ovary tissues. Expression in lung is consistent with a protective role against Expression in lung and ovary tissues.

Expression in lung is consistent with a protective role against bathogenic organisms that contain chitin. The invention provides human chitinase polynucleotides and polypeptides, and materials and methods for the recombinant production of human chitinase products for treating fungal infections or for the development of such products. Human chitinase has a synedyistic effect on the actions of other fungalistic and products of the continuous and infection such as candidiasis, aspergillosis, coccidioidomycosis, cryptococcosis, chromoblastomycosis, appropriated a fungal infections (all claimed). In particular, the fungal infections (all claimed). In particular, the fungal infections (all claimed). In analyce of the fungal infections or particular, when the treatment of a fungal corrections or charactorycosis. present sequence is that of cDNA clone MO-218 (ATCC 98077) and/or Cryptococcus app., whose growth is not effectively inhibited by contact with human chitinase alone. 

## Sequence 1636 BP; 361 A; 491 C; 440 G; 344 T; 0 other;

454

Alignment Scores: Pred. No.:	cores:	2.35e-111	Length:	1636	
Score:		1323.00	Matches:	240	
Percent Similarity:	ilarity:	67.39\$	Conservative:	70	
Best Local	Best Local Similarity:	52.17%	Mismatches:	126	
Query Match:			Indels:	24	
DB:		24	Gaps:	m	
US-10-004-2	19B-14 (1-45	US-10-004-219B-14 (1-455) x ABL57380 (1-1636)	1-1636)		
Vo	2 GlnLeuThr	CysTyrPheThrAsnT	rpAlaGlnTyrArg	2 GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet	21
qq	68 AAACTGGTC	TGCTACTTCACCAACT	rggcccagtacaga	68 AAACTGGTCTGCTACTTCACCAACTGGGCCCAGTACAGAGAGGCTCGCTTCCTG	127
ò	22 ProAspAsn	11 eAspProCysLeuC	SysThrHisLeuile	ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln 41	41
Db 1	128 CCCAAGGAC	SACTIGGACCCCAGCCTI	rgcacccacctcatc1		187
ò	42 AsnAsnGlu	illeThrThrileGluī	[rpAsnAspValThr]	42 AsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly	61
Db 1	88 AACCACCAG	CTGAGCACCACTGAGT	rggaatgacgagactk	rctaccaggagtrcaatggc	247
λ̈́o	62 LeuLysAsn	1LysAsnSerGlnLeul	SysThrLeuLeuAla	LeuLysAsnLysAsnSerGlnLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPheGly	81
Db 2	248 CTGAAGAAG	  atgaatcccaagctga	AGACCCTGTTAGCC	ATCGGAGGCTGGAATTTCGGC	307
. vo	82 ThrAlaPro	SpheThrAlaMetVals	SerThrProGluAsn	ThralaProPheThralaMetValSerThrProGluAsnArgGlnThrPheIleThrSer	101
Db 3	308 ACTCAGAAG	TTCACAGATATGGTAG	SCCACGGCCAACAAC	ACTCAGAAGTTCACAGATATGGTAGCCACGCCCAACAACCGTCAGACCTTTGTCAACTCG	367
0y 1	02 ValijeLys	PheleudrgGlnTyrG	31uPheAspGlyLew	AspPheAspTrpGluTyrPro	121
Db 3	68 GCCATCAGG	TTTCTGCGCAAATACA	AGCTTTGACGGCCTTC	368 GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTTGGAGTACCCA	427

GGAAGCCAGGGGAGCCCTGCCGTAGACAAGGAGCGCTTCACAACCCTGGTACAGGACTTG 487

428 122

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GlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMet

AlavalAlaAlaGly11eSerAsn1leGlnSerGlyTyrGlu11eProGlnLeuSerGln 181 

142 ArgGluAlaPheGluGlnGluAlaLyBGlnIleAsnLyBProArgLeuMetValThrAla

Location/Qualifiers

..1413

/*tag= a 13..75 /*tag= b 76..1410 /*tag= c

sig_peptide mat_peptide WO9640940-A2

19-DEC-1996

96WO-NL00225 95US-0486839

06-JUN-1996; 07-JUN-1995; (UNAM ) UNIV AMSTERDAM

WPI; 1997-118698/11.

Aerts JMFG;

P-PSDB; AAW08584.

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1225
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                                                                                                                                                                                   788 GGCATGCCTACCTACGGACGCTCCTTCACACTGGCCTCCTCATCAGACACACAGAGTGGGG
182 TyrLeuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr
                 608 AACCTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAGAAGGTCACG
                                                      GlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeuAsn
                                                                                                             222 ValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleVal
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at pH 3-

cosmetics,

.c. ..uman cnitinase - used to treat or prevent infection by chitin-contg. pathogens, in diagnosis and as additives to co foods, implants etc.

Claim 2; Page 39-40; 58pp; English

A cDNA clone (AAT50833), designated chi.50, codes for a 50 kDa human chitinase (AAW08584) that is stable to many proteases, active at pH 38 and up to 50 deg, and stable in the circulation. Clones chi.50 and chi.39 (see also AAT50834) were isolated from a human macrophage CDNA library using as probe a partial clone obtd. using primers (see also AAT5083-36) based on a chitorirosidase purified from a type I gaucher disease patient. The 2 cDNA clones are the result of alternative splicing of RNA. Chitinase nucleic acid can be used for large-scale prodn. of recombinant human chitinases, or can be incorporated into a gene therapy vector to treat or prevent infection by chitin-contg. pathogens.

Sequence 1643 BP; 364 A; 490 C; 442 G; 347 T; 0 other;

2.36e-111

Alignment Scores:

Score:

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CTGAAGAAGATGAATCCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGCTGGAATTTCGGC 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    319 ACTCAGAAGTTCACAGATATGGTAGCCACGGCCAACAACCGTCAGACCTTTGTCAACTCG 378
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Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                      US-10-004-219B-14 (1-455) x AAT50833 (1-1643)
                                                                                         Gaps:
                   1323.00
67.39%
52.17%
52.79%
                                   Percent Similarity:
Best Local Similarity:
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Chitinase; chitotriosidase; chitin; infectious disease; gene therapy; vaccine; lysosomal lipidosis; daucher's disease; leishmaniasis; sarcoidosis; X-linked adrenoleukodystrophy; multiple sclerosis; drug delivery; cosmetics; food; ss.

Homo sapiens

Human chitinase cDNA clone chi.50

24-MAR-1997 (first entry)

AAT50833;

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us-10-004-219b-14.rng

(first entry

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US-10-004-219B-14 (1-455) x AAV10436 (1-1656)
                      AAV10436 standard; cDNA; 1656
                                                                   15-JUN-1998
                                            AAV10436;
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RESULT 10
           AAV10436
                                1093 GACTTAGATGACTTTGCCGGCTTCTCCTGCAACCAGGCCGATACCCCCTCATCCAGACG 1152
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1153 CTACGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1212
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                                                                     GGAAGCCAGGGAGCCTTGCCGTAGACAAGGAGCGCTTCACAACCCTGGTACAGACTTG
                                                                                                                 AlavalAlaAlaGly1leSerAsn1leGlnSerGlyTyrGlu1leProGlnLeuSerGln
                                                                                                                                                                GlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeuAsn
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                                                     GlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMet
                                                                                                   142 ArgGluAlaPheGluGluAlaLysGlnIleAsnLysProArgLeuMetValThrAla
                                                                                                                                                                                                                                                                                                           GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCA
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This sequence encodes a novel human chitinase isolated from clone MO-13B. Chitinases are useful for treating or preventing fungal infection and as immunogens for generating antibodies which are used to purify, detect and quantify chitinases, e.g. for diagnosis of Gaucher's disease. The nucleic acid sequence of the chitinase is also useful as a probe to identify and isolate genomic DNA encoding chitinases or similar proteins, or cells expressing them or to generate transgenic ('knockout') rodents. It can also be used in hybridisation assays and to detect genetic alterations in the chitinase gene related to disease. Agents that inhibit this protein may be useful in treatment of Gaucher's disease and rheumatoid arthritis, where overexpression of the protein can damage the extracellular matrix. Chitinase also improves the activity of other antifungal agents and may allow a reduction in the dose of such agents,
                                                    Chitinase; human; fungal infection; immunogen; diagnosis; treatment; Gaucher's disease; transgenic; detection; hybridisation; antifungal; rheumatoid arthritis; overexpression; extracellular matrix; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nucleic acids encoding human chitinase - useful as antifungal agents, especially in combination with other antifungals
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Matches:
Conservative:
Mismatches:
Indels:
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/product= chitinase
/note= "from clone MO-13B"
                                                                                                                                                                                                                    Location/Qualifiers
27..1427
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Human chitinase clone MO-13B cDNA.
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27..89
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1167 CTACGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1226
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                                                                                                      GlySerSerSerSerGlyGlySerSerGlyGlySerGlyPheCysAlaValArgAlaAsn
                                                                                                                                   -----GAGCATGGCCCCAGCCCTGGACAGACACGTTCTGCCAGGGCAAAGCTGAT
                                                                                                                                                                                 fragments of human chitinase used to treat fungal
                                             375 AlaProAlaGlnProIleGluProIleThrAlaAlaProSerGlySerGlyAsnGlySer
                                                                                                                                                                 GlyLeuTyrProValAlaAsnAsnArgAsnAlaPheTrpHisCysValAsnGlyValThr
                                                                                                                                                                                                                         435 TyrGlnGlnAsnCysGlnAlaGlyLeuValPheAspThrSerCysAspCysCysAsnTrp
                                                                                                                                                                                                                                                                                                                                                                                                                   MO-13B clone of human Chitinase, with noncoding 5'/3' regions
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/product= Human_Chitinase
                                                                          1227 AAACCAGGTCAGCCCTCTGAACCT-----
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/note= "Mature peptide"
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/note= "Signal
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detection and quantification of chitinase. Polynucleotide fragments of the invention are useful as a source of probes and primers, and to express the proteins recombinantly. The chitinase fragments, when conjugated to antifungal compounds, are used to treat animals, especially humans, infected with chitin-containing parasites such as fungi. Fungal infection treated include candidiasis, aspergillosis, cocidioidomycosis, blastomycosis, paracoccidioidomycosis, histoplasmosis, cryptococcosis, chromoblastomycosis, sporotrichosis, and dermatophytoses.

Chitin can be degraded by the enzyme chitinase. Use of whole chitinase protein for treating infections, especially fungal infections, is problematic. In view of the increasing incidents of life- threatening fungal infection in e.g. immunocompromised individuals, there exists a ched for identifying new compounds for treating fungal infection. The chitin-binding fragments of the present invention provide this need.
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chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytoses;
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                                                                                                                                                          "Human chitinase from clone pMO-13B"
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/product= "Human mature chitinase from clone pMO-13B'

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Novel chitinase immunoglobulin fusion product, useful for treating fungal infections and reducing the amount of a non-chitinase antifungal agent needed for the treatment
                                                                                                                                           Claim 2; Page 34-36; 39pp; English
                                                                              Gray PW,
                                      28-SEP-2000; 2000WO-US26960
                                                     99US-0409918
                                                                               Allison DS, Dietsch GN,
                                                                                            2001-266141/27
                                                                                                    P-PSDB; AAE00433
             WO200123430-A2
                                                   30-SEP-1999;
                                                                  (ICOS-) ICOS
                          05-APR-2001
```

Steiner BH;

Shaw KD,

The present invention relates to a chitinase immunoglobulin (Ig) fusion product, comprising a human chitinase fused to at least a portion of an immunoglobulin chain. The fusion product is useful for treating fungal infections (mycoses) such as candidiate, aspergillosis, blastomycosis, coccidioidomycosis, chromoblastomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, histoplasmosis, mucormycosis, cryptococcosis, chromoblastomycosis, sporotrichosis and dermatophytoses. The fusion protein is useful for reducing the amount of non-chitinase antifungal agent needed to exert an antifungal activity. The fusion or therapeutic treatment of exert an antifungal activity. The fusion or therapeutic treatment of fungal infections. Chitinase immunoglobulin fusion product has unexpectedly improved serum half-life and formulation product has consent sequence is human chitinase cDNA from clone pw0-13B. Chitinase enzyme degrades chitin which is a homopolymer of beta-(1,4)-linked N-acetylglucosamine residues.

Sequence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other

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CCCAAGGACTTGGACCCCAGCCTTTGCACCCCCACCTCATCTACGCCTTCGCTGGCATGACC 212
                                                                                                                                                                                                                                                                                                                                                                                             333 ACTCAGAAGTTCACAGATATGGTAGCCACGGCCAACAACCGTCAGACCTTTGTCAACTCG 392
                                                                                                                                                                    GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet
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                                             Conservative:
Mismatches:
Indels:
               Length:
Matches:
                                                                                                                                  (1-1656)
                                                                                                                                    US-10-004-219B-14 (1-455) x AAD03760
              8.46e-111
1317.00
67.17%
51.96%
52.55%
                                               Percent Similarity:
Best Local Similarity:
Alignment Scores:
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272

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BP

ABL57381 standard; cDNA; 1656

RESULT 13
ABL57381
ID ABL577
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933 TACTATGAAGTCTGCTCCTGG----AAGGGGGCCACCAAACAGAGAATCCAGGATCAG
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122 GlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMet
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ABL57381;

Human chitinase cDNA clone MO-13B. 12-AUG-2002 (first entry)

Chitinase; enzyme; human; fungicide; antifungal; infection; candidiasis; aspergillosis; coccidioidomycosis; blastcomycosis; paracoccidioidomycosis; histoplasmosis; cryptococcosis; chromoblastomycosis; sporotrichosis; mucormycosis; dermatophytosis; Pneumocystis; gene; ss. *tag= a product= "Chitinase" Location/Qualifiers 97US-0877599 96US-0663618 27..89 /*tag= b 90..1424 /*tag= c WPI; 2002-442449/47. P-PSDB; ABB76292. (ICOS-) ICOS CORP. 16-JUN-1997; 14-JUN-1996; US6372212-B1 Homo sapiens 16-APR-2002. sig_peptide mat_peptide Gray PW;

Co-administering chitinase to improve the effectiveness of fungicidal drugs e.g. amphotericin B or itraconazole, useful for treating fungal infections e.g. candidiasis, coccidioidomycosis and blastomycosis -

Example 1; Column 31-34; 26pp; English

The present sequence is that of cDNA clone MO-13B (ATCC 98078)

encoding human chitinase (see ABB76292). The clone was isolated
from a CDNA library prepared from peripheral blood monocyte-derived
macrophages using a probe based on human chitinase clone MO-218
(see ABL57380). The 2 clones contain a single nucleotide
difference in the coding region, causing amino acid position 81 of
the mature protein to be either serine or glycine. Northern blots
showed highest chitinase gene expression in lung and ovary tissues.
Expression in lung is consistent with a protective role against
c pathogenic organisms that contain chitin. The invention provides
thuman chitinase polynucleotides and polypeptides, and materials and
methods for the recombinant production of human chitinase products
c which are expected to be useful as products for treating fungal
infections or for the development of such products. Human
chitinase has a synergistic effect on the actions of other
fungicides. It can be administered to improve the antifungal
c activity of a non-chitinase antifungal agent, especially
amphotericin B or itraconazole, in the treatment of a fungal
infection such as candidiasis, aspergillosis, coccidioidomycosis,
c phareconycosis, physmolesis, expergillosis, encorations or for the contractions or for the contraction such as candidiasis, aspergillosis, coccidioidomycosis,
c phareconycosis, physmolesis, corrections or for the corrections or for the contractions or f cryptococcosis, chromoblastomycosis, sporotrichosis, mucormycosis, dermatophytoses and Pneumocystis infections (all claimed). In particular, the fungal infection involves Candida, Aspergillus and/or Cryptococcus spp., whose growth is not effectively inhibited by contact with human chitinase alone.

Sequence 1656 BP; 365 A; 497 C; 447 G; 347 T; 0 other;

Alignment Scores:

		eMet 21  :::  ccrG 152	gGln 41 GACC 212	nGly 61      TGGC 272	eGly 81   	3 P	rPro 121        CCA:452	Met 14 ::: TTG 51	a 16    -   57	18	lyTyrThr 201     GGTCACG 692	tuAsn 221        CAAC 752	eVal 241  ::: 'CCTT 812	eGly 261 :    GGGG 872	.eTrpAla 281 ::     :GCTGGCC 932	30 98	32	
656 0 27 4 7		ProGlyLeuGlyArgPh     	ralaPhealaGlyar; 	uTyrGlnAlaPheAsn(          cTACCAGGAGTTCAAT	eGlyGlyTrpAsnPh 	Pheller    ::: rrrgrca	LeudspPhedspTrpGluTyr	LeuPheThrValleuValGlnGl         CGCTTCACAACCCTGGTACAGGA	euMetVa   ::::: TTCTTCT	ulleProGlnLeuSe  :::  GGGGAAAATCGC	ySerTrpGluGlyTy             crctTgggAgGAGGT	ySerAsnAlaTyrLe:  :::  TGCAGCCAGCCT	aProAlaGluLysLeuIl	oSerAsnThrGlyIleGly    :::     ATCAGACACAGAGTGGGG	6GluSerGly1leTr       GGAAGGAGGGATGCT	nGlyTrpAspAlaPr : ACAGAGAATCCAGGA	rAspasnIleLysSe	TGATGATGTGGAGAG
Length: 2 Matches: 2 Conservative: 7 Mismatches: 1 Indels: 2 Gaps: 3	-1656)	inTrpAlaGlnTyrArgPro	hrHisLeuIleTy 	pAsnAspValThrLeuTyrG          AAJGACGAGACTCTCTACC	euller 		uPheaspGlyLeuas	plyshisteupheth	BGlnIleAsnLysProArgL :  GACCTCAGGGAAGGAACGCC	eGlnSerGlyTyrGl : ::        GGATGCTGGATACGA	rTyrAspleuHisGl	rProThraspThrGl ::::::   GCAAGAAGAGTGG	saspasnglyalapr       GCagaagggacccc	elleLeuSerAsnPr       :::::  CACACTGGCCTCCTC	aGlyProTyrAlaLy           AGGCCCTTCACCAA	8A8NGIYAlaThrGlnGlyTrpAspAlaProGl          - -AAGGGGCCACCAAAAGAGAATCCAGGATCA	nValTrpValGlyTy           :	CCAGTGGGTGGGCTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New isolated human chitotriosidase gene - used to develop products for the diagnosis and treatment of tissue remodeling disorders, e.g
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(SMIK ) SMITHKLINE BEECHAM CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102 VallleLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      490 GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGTTCCAGCTGGCAGACCTATGTGGATGCTGGATACGAGGTGGACAAAATCGCCCAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182 TyrLeuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      730 AACCTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAGAAGGTCACG
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              acid amplification, and (2) a method of detecting altered expression of a chitotriosidase protein in a host comprising contacting a bodily sample with an antibody. Chitotriosidase can degrade extracellular matrix substrates with a similar carbohydrate structure to chitin. It can be used to develop products which can be used in the diagnosis and treatment of tissue remodelling disorders such as rheumatoid arthritis or atherosclerosis. Chitotriosidase nucleic acids can be used in the recombinant production of the enzyme, and as probes or primers in diagnostic
chitotriosidase protein in a host comprising carrying out nucleic
                                                                                                                                                                                                                                                                        Sequence 1768 BP; 401 A; 529.C; 474 G; 363 T; 1 other;
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239
70
127
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Matches:
Conservative:
Mismatches:
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1316.00
67.17%
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GlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMet 141
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                                                                                                                                                                                                                                                                                                     A cDNA clone (AAT50834), designated chi.39, codes for a 39 kDa human chitinase (AAW08584) that is stable to many proteases, active at pH 3-8 and up to 50 deg, and stable in the circulation. Clones chi.39 and chi.50 (see also AAT50833) were isolated from a human macrophage cDNA library using as probe a partial clone obtd. using primers (see also AAT50835-36) based on a chitotriosidase purified from a type I Gaucher disease patient. The 2 cDNA clones are the result of alternative splicing of RNA. Chitinase nucleic acid can be used for large-scale prodn. of recombinant human chitinases, or can be incorporated into a gene therapy vector to treat or prevent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22 ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         319 ACTCAGAAGTTCACAGATATGGTAGCCACGGCCAACAACCGTCAGACCTTTGTCAACTCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259 creaagaagargaarcccaagcreaagcccrerragccarceaggcregaarrregcc
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      102 ValileLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142 ArgGluAlaPheGluGluAlaLysGlnIleAsnLysProArgLeuMetValThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AsnAsnGlulleThrIhrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly
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                                                                                                                                                                              chitin-contg. pathogens, in diagnosis and as additives to cosmetics, foods, implants etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1713 BP; 380 A; 503 C; 465 G; 365 T; 0 other;
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Matches:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          infection by chitin-contg. pathogens.
                                                                                                                                                                                                                                                                       Claim 2; Page 42-43; 58pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.82e-110
1311.50
68.09%
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                                                      (UNAM ) UNIV AMSTERDAM
                                                                                                                                WPI; 1997-118698/11.
P-PSDB; AAW08585.
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Best Local Similarity:
                    07-JUN-1995;
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                                                                                                                                  TyrTyrGluIleCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaProGln 301
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322 AspileLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaIle
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                                                        AlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrpAla
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13..1176
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3..75
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1273 TTGAAGTTCCAAAACCAGGTCAGCCTCTGAACCTGAGCATGGCCCAAGCCCTGGACAAG 1332
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                                                                       619 AACCTGGATTTTGTCAACCTTATGGCCTACGACTTCCATGGCTCTTGGGAGAAGGTCACG
                                                                                                                     GlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeuAsn
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                                                   TyrLeuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr
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ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 233 South Wacker Drive/6300 Sears Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Gray, Patrick W.
APPLICANT: Tjoalker, Larry W.
TITLE OF INVENTON: CHITINASE CHITIN-BINDING FRAGMENTS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COPERATION: PER FC COMPACTION:
COPERATION WINGS SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PACENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,198A
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCY/DOCKET NUMBER: 27866/34391
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALIGNMENTS
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COUNTRY: United States of America
ZIP: 60606-6402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/09039198A Patent No. 6200951
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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TELEPHONE: (312) 474-6448
INPORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1636 base pairs
TYPE: nucleic acid
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STATE: Illinoi
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-MODEL=frame+ p2n.model -DEV=xlp
-MODEL=frame+ p2n.model -DEV=xlp
-MODEL=frame+ p2n.model -DEV=xlp
-Q=/cgn2_1/USPTO spool/US10004219/runat_24062003_160229_8184/app_query.fasta_1.1877
-DB=ISBUGG_PATENTS - QFMT=fastap -SUFFIX=rni -MINNATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=Elte -GTRAT=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DOCALIGN=200 -THR SCORE=pct -THR MAX=100 -THR MIN=0 -ALIGN=15
-MODB=LOCAL.-OUTFNT=pco -NORM=ext -HRAPSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USRR=US10004219 GCGN 1 1 108 @runat 24062003 160229 8184 -NCPU=6 -ICPU=3
-NO MWAP -LARGEQUERY -NGG_SCORES= O WAIT -DSPELOCK=100 -LONGLOG
-DEV TIMEOUT=120 -WARN TIMEOUT=30 -TRIREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                     June 29, 2003, 21:12:38 ; Search time 64.9519 Seconds (without alignments) 2148.326 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
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                       GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
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/cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
                                                                                                                                    nucleic search, using frame_plus_p2n model
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US-08-877-599-1
US-09-67-574-1
US-09-151-011-3
US-09-151-011-3
US-09-039-139-3
US-09-039-139-3
US-09-267-574-3
US-09-151-011-5
US-09-151-011-5
US-09-151-011-5
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Maximum Match 100%
Listing first 45 summaries
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Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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Maximum DB seq length: 200000000
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2506 '
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Match Length DB
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Score

Result

Database :

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262 AlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrpAla
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TITLE OF INVENTION: Chitinase Materials and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & I
STREET: 6300 Sears Tower, 233 South Wacker Drive
CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: Illinois
COUTRY: United States of America
ZIP: 66060-6402
COMPUTER READABLE FORM:
MEDLUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
CORPTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Rin-Laures, Li-Hsien
REGISTRATION NUMBER: 33,547
REFERENCE/DOCKET NUMBER: 27866/33994
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-877-599-1
; Sequence 1, Application US/08877599
; Patent No. 637212
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                        ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln
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Matches:
Conservative:
Mismatches:
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                                                                                                                                                                                        6.16e-123
                                                                                                                                                                                                 1323.00
67.39%
52.17%
52.79%
                                                                                                         mat_peptide
65..1399
   STRANDEDNESS: single
              TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
                                                                           2..1399
                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                            NAME/KEY:
LOCATION:
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US-09-039-198A-1
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                                                                                                     TyrTyrGluIleCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaProGln
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APPLICANT: Gray, Patrick W.
APPLICANT: Tjoelker, Larry W.
TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFERENCE: 27866/35407
CURRENT APPLICATION NUMBER: US/09/267,574
CURRENT FILING DATE: 1999-03-12
EARLIER APPLICATION NUMBER: 09/039,198
EARLIER FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 1, Application US/09267574; Patent No. 6399571; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; NAME/KEY: mat_peptide
; LOCATION: (65)..(1399)
US-09-267-574-1
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LOCATION: (2)..(1399)
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Matches:
Conservative:
Mismatches:
Indels:
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            TELEX: 25-3856
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                       1323.00
67.39%
52.17%
52.79%
                                                       LENGTH: 1636 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TELEFAX: 312/474-0448
                                                                                                                                                 NAME/KEY: CDS
LOCATION: 2..1399
FEATURE:
                                                                                                    TOPOLOGY: linear MOLECULE TYPE: CDNA FEATURE:
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Query Match:
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, LOCATION:
US-08-877-599-1
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|1142 cTACGGCAGGAACTGACTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1201
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728 GTGGATGCTGTGCAACAGTGGCTGCAAGGGGACCCCTGCCAGCAAGCTGATCCTT 787
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                                                             GlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIleGly
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322 AspileLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaIle
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CITY: Jericho
STATE: New York
COUNTRY: United States of America
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/486,83
FILING DATE: O' - June - 1995
ATTORNEY/AGENT INFORMATION:
NAME: Baron, Ronald J.
REGISTRATION UNMBER: 29,281
REFERENCE/DOCKET NUMBER: 294-26
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/08486839
Patent No. 5928928
GENERAL INFORMATION:
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350 Jericho Turnpike
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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TYPE: nucleic acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
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                                                                                                                                                                                               ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln
                                                                                                                                                                                                                                                    AsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly
                                                                                                                                                                                                                                                                     GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCA
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          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                             US-10-004-219B-14 (1-455) x US-09-267-574-1 (1-1636)
             6.16e-123
                          1323.00
67.39%
52.17%
52.79%
                             Percent Similarity:
Best Local Similarity:
Query Match:
DB:
Alignment Scores:
Pred. No.:
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AspleuAspAspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSerThr 361
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1337 TICCAGCAAAGCTGCCCGACAGGCCTGGTTCCAGCAACTCCTGCAAAATGCTGCACCTGG 1396
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TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
341
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322 AspilelysalacintrpleulysHisasnLysPheclyGlyalametvalTrpalaile	Db 1153 CTACGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1212  Qy 375 AlaProAlaGlnProIleGluProIleThrAlaAlaProSerGlySerGlyAsnGlySer 394	395 GlySerSerSerGlyGlySerSerGlyGlySerGlyPheCysAlaValArgAlaAsn	415 GLYLeutyrProvalAlaAsnAsnAsnArdalaPherTrpH1sCysValAsnArdIValThr 1288 GGGCTCTATCCTCGGGAACGGTCCAGCTTCTACAGCTGTGCAGCGGGGCGGCTG	27 435 1720INITATION THE WORLD AND THE CONTROL OF THE PROPERTY 434  DD 1348 TICCAGCAAAGCTGCCCGACAGGCCTGGTTCAGCAACTCCTGCAAATGCTGCACCTGG 1407	KESULT 11-3  15-09-151-011-3  1 Sequence 3, Application US/09151011  1 Patent No. 6051142  1 Patent No. 1000111	; GENERAL INVENTION: ; APPLICANT: ; TITLE OF INVENTION: A Human Chitinase, Its Recombinant ; TITLE OF INVENTION: Production, Its Use For Decomposing Chitin, Its Use in	inerapy or Frophylaxis Against: 16 ESS: Ann & Baron, LLP	; SIKEET: SYOU DETICNO TUTNDIKE; CITY: Syosset; STATE: New York; COUNTRY: United States of America	; ZIP: 11791 ; COMPUTER FORM: ; MEDIUM TYPE: Floppy disk ; COMPUTER: IBM PC compatible	; OPERATING SYSTEM: PC-DOS/MS-DOS ; SOFTWARE: PatentIn Release #1.0, Version #1.30 ; SOFTWARE: ; CURRENT APPLICATION DATA:	## APPLICATION NUMBER: US/09/151.011 ### PILING DATE: 10 - September - 1998 ### ATTORNEY/AGENT INFORMATION: ### NAME: Morriss, Robert C.	REGISTRATION NUMBER: 42,910 REFERENCE/DOCKET NUMBER: 294-32 DIV FELECOMMUNICATION INFORMATION: TELEPHONE: (516) 822-3550	2 S w ±	TYPE: nucleic acid   STRANDEDNESS: unknown   TOPOLOGY: unknown   MOLECULE TYPE: cDNA	; HYPOTHETICAL: NO US-09-151-011-3 Alignment Scores: 6.2e-123 Length: 1643
Pred. No.: 6.2e-123	Db 79 AAACTGGTCTGCTACTTCACCAACTGGGCCCCGGTGGGGGGGG	42 AsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly	62 LeulysasnlysasnSerGlnLeulysThrLeuLeulalaIleGlyGlyTrpasnPheGly 81 	82 ThralaProPheThralaMetValSerThrProGluAsnArgGlnThrPheileThrSer 101	102 ValileLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyrPro 121	122 GlyserArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMet 141	142 ArgGluAlaPheGluGluAlaLysGlnIleAsnLysProArgLeuMetValThrAla 161 499 GCCAATGCCTTCCAGCAGGAAGCCCAGACCTCAGGAAGGA	162 AlavalalaalaglyıleSerAsnıleGinSerGjyTyrGjuileProGinLeuSerGin 181 	182 TyrLeuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr 201        :::::::::	202 GlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeuAsn 221	222 ValAspTyrValMetAsnTyrTrpLysAspAsnGlyalaProAlaGluLysLeuIjeval 241                :::	242 GlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThrGlyIleGly 261 	262 AlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLy8GluSerGly1leTrpAla 281	282 TyrTyrGluileCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaProGln 301           :::   :::	302 GluvalprotyralaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSerPhe 321 

	395 1237 415 1288 435 1348	VESULY 19.  VESULY 19.  VESULY 19.  VESULY 19.  VERSULY 10.  VERSULY 10.  VERNEAL INFORMATION:  APPLICANT:  TITLE OF INVENTION: A human chitinase, its recombinant  TITLE OF INVENTION: A human chitinase, its recombinant  TITLE OF INVENTION: In therapy or prophylaxis against infection diseases.  VORRESPONDENCE ADDRESS:  ADDRESSEE: Hoffmann & Baron  STREET: 350 Jericho Turnpike  COTTY: Jericho Turnpike  COUNTRY: United States of America	77 B B C C C C C C C C C C C C C C C C C	REPERENCE JOCKET NUMBER : 244-26 ; TELECOMMUNICATION : ; TELEPHONE : (516) 822-3560 ; INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: ; LENGTH: 1643 base pairs ; TYBE: nucleic acid ; TYPE: unknown ; TOPOLOGY: unknown ; HYPOTHETICAL: NO ; HYPOTHETICAL: NO
Score	Db 139 cccaaccarredacccrrrredacccarrredacccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarredaccarr	102   ValileLysPheLeuArgGluTyrGluPheAspGlyLeuAspPheAspTrpGluTyrPro   121	Qy         182 TyrLeuAspTyrIleHisValMetThrTytAspLeuHisGlySerTrpGludlyTyrThr         201	Qy 262 AlaProThrSerGlyAlaGlyProAlaGlyProTytalaLySGluSerGlyIleTrpAla 281

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1213 AAACCÁGGTCÁGCCCTCTGAACCT----
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TELEPHONE: (312) 474-6300
TELEFAX: (312) 474-648
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1656 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: CDS
LOCATION: 27..1424
FEATURE:
NAME/KEY: mat_peptide
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STRANDEDNESS: single
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                                                                                                                                 82 ThrAlaProPheThrAlaMetValSerThrProGluAsnArqGlnThrPheIleThrSer 101
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                                                                                                                                                                                                                                                                                                                                                                                                                                          439 GGAAGCCAGGGGGCCCTGCCGTAGACAAGGAGCGCTTCACAACCCTGGTACAGGACTTG 498
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 222 ValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleVal 241
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                                                                                                                                                                                   379 GCCAICAGGTITCTGCGCAAAIACAGCTTTGACGGCCTTGACCTTGACTGGGAGIACCCA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  142 ArgGluAlaPheGluGluAlaLysGlnIleAsnLysProArgLeuMetValThrAla 161
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                                                                                                                      GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet 21
                                                                                                                                                                  22 ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln 41
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| AACCACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTTCTACCAGGAGTTCAATGGC
                                                                                                                                                                                                                                                                   42 AsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly
          Length:
Matches:
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Mismatches:
Indels:
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                                                                      Gaps:
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                                  Percent Similarity:
Best Local Similarity:
Alignment Scores:
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454

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1167 CTACGGCAGGAACTGAGTCTTCCATACTTGCCTTCAGGCACCCCAGAGCTTGAAGTTCCA 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1251 ------GAGCATGGCCCCAGCCCTGGACAAGACACGTTCTGCCAGGGCAAAGCTGAT 1301
                                                                 322 AspilelysAlaGinTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaIle 341
                                                                                                                                                                                                          342 AspLeuAspAspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                       302 GluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSerPhe
                                                                                                                                                                        1107 GACTTAGATGACTTTGCCGGCTTCTCCTGCAACCAGGGCCGATACCCCCTCATCCAGACG
                                                                                                                                                                                                                                                                               375 AlaProAlaGlnProIleGluProIleThrAlaAlaProSerGlySerGlyAsnGlySer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435 TyrGlnGlnAsnCysGlnAlaGlyLeuValPheAspThrSerCysAspCysCysAsnTrp
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Chitinase Materials and Methods NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E: Marshall, O'Toole, Gerstein, Murray & 6300 Sears Tower, 233 South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 60606-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/877,599
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STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
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CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/663,618
FILING DATE: 14-UN-1996
ATTORNEY/AGENT INFORMATION:
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; Sequence 3, Application US/08877599
; Patent No. 6372212
; GENERAL INFORMATION:
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REFERENCE/DOCKET NUMBER: 27
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TELEX: 25-3866
INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 1656 base pairs TYPE: nucleic acid STRANDEDNESS: single
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312/474-0448
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Matches:
Conservative:
Mismatches:
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Best Local Similarity:
Query Match:
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                                                                                    GluvalProTyrAlaTyrGlnGlyAenValTrpValGlyTyrAspAenIleLysSerPhe 321
                             TyrTyrGlulleCygThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaProGln 301
                                                         TACTATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAAATCCAGGATCAG
  Sequence 3, Application US/09267574

Patent No. 639571

GENERAL INFORMATION:

APPLICANT: Grav, Patrick W.

TITLE OF INVENTION: CHITINASE CHITIN-BINDING FRAGMENTS
FILE REFREENCE: 27866/35407

FURRENT APPLICATION NUMBER: US/09/267,574

CURRENT FILING DATE: 1999-03-12

EARLIER PILING DATE: 1999-03-12

BARLIER PILING DATE: 1999-03-12

NUMBER: OF SEQ ID NOS: 39

SOFTWARE: Patentin Ver: 2.0

SOFTWARE: Patentin Ver: 2.0
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LOCATION: (90)..(1424)
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Matches:
Conservative:
Mismatches:
Indels:
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MOLECULE TYPE: CDNA FEATURE: NAME/KEY: CDS LOCATION: 27..1424
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US-08-877-599-3
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APPLICATION NUMBER: US/08/486,839
FILING DATE: 07 - June - 1995
ATTORNEY/AGENT INFORMATION:
NAME: Baron, Ronald J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 294-26
TELECOMMUNICATION INFORMATION: (516) 822-3550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 5, Application US/08486839
Patent No. 5928928
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E: Hoffmann & Baron
350 Jericho Turnpike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Baron, Ronald J. REGISTRATION NUMBER: 29,281
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1713 base pairs
                            LeuLysLysAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: United State
ZIP: 11758
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: unkno
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Jericho
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
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                                                   LeuLysAsnLysAsnSerGlnLeuLysThrLeuLeuAlaIleGlyGlyTrpAsnPheGly
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US-10-004-219B-14 (1-455) x US-09-267-574-3 (1-1656)
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APPLICANT:
TITLE OF INVENTION: A human chitinase, its recombinant
TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS: 1713 244 76 131 19 SOFTWARE: PatentIn Release #1.0, Version #1.30 Conservative: Mismatches: Indels: US-10-004-219B-14 (1-455) x US-08-486-839-5 (1-1713)

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STREKT: e>vo vorter

CITY: Syosset
STATE: New York
COUNTRY: United States of America
ZIP: 11791
COMPUTER READBLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: EMP PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.
SOFTWARE: PatentIn Release #1.0, Version #1.
SOFTWARE: PatentIn Release #1.0, Version #1.
SOFTWARE: PatentIn Release #1.0, Version #1.
SOFTWARE: PATENTIN DATA:
APPLICATION NUMBER: US/09/151,011
FILING DATE: 10 - September - 1998
ATTORNEY/AGENT INFORMATION:
NAME: MORTISS, ROBERT C.
REGISTRATION NUMBER: 294-32 DIV
TELEPRANCE/DOCKET NUMBER: 294-32 DIV
TELEPRANCE CHARACTERSTICS:
LERERAL (516) 82-3550
TELEPRANCE CHARACTERSTICS:
LENGTH: 1713 base pairs
TYPE: nucleic acid
TTYPE: unknown
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Matches:
Conservative:
Mismatches:
Indels:
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Best Local Similarity:
Query Match:
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TOPOLOGY: unk
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                                                                                                     CTGAAGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCCATCGGAGGCTGGAATTTCGGC 318
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                         ThralaProPheThralaMetValSerThrProGluAsnArgGlnThrPheIleThrSer 101
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                                                   ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln 41
GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet
                                                                                                                                                                                                                         GlyGluAbnSerProteuTyrLyBTyrProThrAbpThrGlySerAbnAlaTyrLeuAbn
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Sequence 5, Application US/09151011
Patent No. 6057142
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: A Human Chitinase, Its Recombinant
TITLE OF INVENTION: Therapy or Prophylaxis Against Infection Diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
STREET: 6900 Jericho Turnpike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |||:::::: ||| ::: ||| || || ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: ||| ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || ::: || :
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                                                                                                                                                                                                                                                                                                                           381 uProlleThr-AlaAla------392
LeulyslysAlaLeuGlyLeuGlnSerAlaSerCysThrAlaProAlaGlnPro-IleGl 381
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1093 GACTTAGATGACTTTGCCGGCTTCTCCTGCAACCAGGCCGATACCCCCTCATCCAGACG 1152
                                                                                       1273 ITGAAGTICCAAAACCAGGICAGCCCICIGAACCIGAGCAIGGCCCAAGCCCIGGACAAG 1332
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TITLE OF INVENTION: production, its use for decomposing chitin, its use
TITLE OF INVENTION: in therapy or prophylaxis against infection diseases.
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                                                               LeuLysLysAlaLeuGlyLeuGlnSerAlaSerCysThrAlaProAlaGlnPro-IleGl 381
                                                                                                                                                  -----ProSerGlySerGlyAsn- 392
                                                                                                                                                                                                                                     393 -------GlySerGlySerSerSerGlyGlySerSerGlyGlySerG
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                                                                                                                                                                                                                                                                                                                                                                                                         426 heTrpHisCysValAsnGlyValThrTyrGlnGlnAsnCysGlnAlaGlyLeuValPheA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Hoffmann & Baron
STREET: 350 Jericho Turnpike
CITY: Jericho Turnpike
CITY: Jericho Turnpike
STATE: New York
CONNTRY: United States of America
ZIP: 11758
COMPUTER: RADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: TBM PC COMPATIBLE
COMPUTER: PEM PC COMPATIBLE
COMPUTER: PEM PC COMPATIBLE
COMPUTER: PEM PC COMPATIBLE
COMPUTER: PEM PC COMPATIBLE
COMPUTER: PATENTIN Release #1.0, Version #1.30
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APPLICATION NUMBER: US/08/486,839
FILING DATE: 07-JUNE-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/343,623
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 5, Application US/09343623
Patent No. 6303118
GENERAL INFORMATION:
                                                                                                                                                    381 uProlleThr-AlaAla----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (516) 822-3550
TELEFAX: (516) 822-3582
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 1713 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: unknown
; MOLECULE TYPE: cDNA
; MALECULE TYPE: CDNA
; HYPOTHETICAL: NO
US-09-343-623-5
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                                                                                         GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet
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                                                US-10-004-219B-14 (1-455) x US-09-151-011-5 (1-1713)
      Gaps:
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1333 ACACGTTCTGCCAGGGCAAAGCTGATGGGCTCTATCCTCGGGAACGGTCCAGCT 1392
                                                     1033 AAAACCAAGGTCAGCTATCTGAAGCAGAAGGGACTGGGGGGGCCATGGTCTGGGCACTG 1092
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                                                                                       AspleuAspAspPheThrGlyThrPheCysAsnGlnGlyLyBPheProLeuIleSerThr 361
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                       322 AspileLysAlaGlnTrpLeuLySHisAsnLySPheGlyGlyAlaMetValTrpAlaile 341
                                                                                                                                                          LeuLysLysAlaLeuGlyLeuGlnSerAlaSerCysThrAlaProAlaGlnPro-IleGl 381
                                                                                                                                                                                                                              uProlleThr-AlaAla------392
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APPLICANT: Rosenberg, Martin
TITLE OF INVENTION: HUMAN CARTILEGE GP39-LIKE GENE
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation
STREET: 709 Swedeland Road
CITY: King of Prussia
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1453 GCAACTCCTGCAAATGCTGCACCTGG 1478
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OPERATING SYSTEM: DOS
CURFUARE: FASTSEQ VERSION 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/694,915
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; Sequence 1, Application US/08694915
; Patent No. 5811535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-270-5219
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 1433 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Adamou, Julie
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 610-270-5090
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REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 19406-2799
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          161
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       222 ValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleVal 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGlyIleTrpAla 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSsrPhe 321 :::|||||||||| ::::|||||||
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       379 GCCATCAGGTTTCTGCGCAAATACAGCTTTGACGGCCTTGACCTTGACTGGGAGTACCCA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            162 AlavalAlaAlaGlyIleSerAsnIleGlnSerGlyTyrGluIleProGlnLeuSerGln 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182 TyrieuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyrThr 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlyPheProThrTyrGlyHisAsnPhelleLeuSerAsnProSerAsnThrGlyIleGly 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TyrTyrGlulleCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaProGln 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TACTATGAAGTCTGCTCCTGG-----AAGGGGGCCACCAAACAGAGAATCCAGGATCAG 972
                                                                                                                                                                                                                                        22 ProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArgGln 41
                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                        2 GlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPheMet 21
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|-|| ACTCAGAAGTTCACAGATATGGTAGCCACGACCAACAACGACCTCGACCAACACCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42 AsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGly
                     Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                       US-10-004-219B-14 (1-455) x US-09-343-623-5 (1-1713)
                                                                                     Indels:
Gaps:
                   9.37e-122
1311.50
68.09%
51.91%
52.33%
                                       Percent Similarity: 'Best Local Similarity: 'Query Match: DB:
Alignment Scores:
Pred. No.:
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ADDRESSEE: SmithKline Beecham Corporation
STREET: 709 Swedeland Road
CITY: King of Prussia
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/694,
                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3, Application US/08694915
Patent No. 5811535
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTY, 21P. 19406-2799
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
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ATTORNEY/AGENT INFORMATION:
NAME: Han, William T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 1526 base pairs
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: nucleic acid STRANDEDNESS: sing
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ORIGINAL SOURCE
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COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     295 AGTCTCAAAACCAAGAATCCCAAACTGAAAATTCTCTTGTCCATTGGAGGGTACCTGTTT
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Mismatches:
Indels:
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                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                              9.88e-88
970.50
69.11%
49.32%
38.73%
TYPE: nucleic acid
STRANDENNESS: single
TOPOLOGY: linear
MOLECULE TYPE: CDNA
HYPOTHETICAL: NO
                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                       ; ANTI-SENSE: NO
; FRAGMENT TYPE:
; ORIGINAL SOURCE:
US-08-694-915-1
                                                                                                                                                                                 Alignment Scores:
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1114 TGGTCTATTGACATGGATGACTTCACTGGCAAATCCTGCAGGGCCCTTACCCTCTT 1173
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                                   936
                                                                                                                                                                                                                                        299 AlaProGlnGluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIle 318
                                                                                                                                                                                                                                                                                                                                                                                319 LysSerPheAspIleLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetVal 338
877 ACCGTGGGGGCCCTGTGGCCTGGAGCTGCTGGAGCTCATCAGGG
                                                                                                                                                                        937 TTCCTGGCCTATTATGAGATCTGCCAGTTCCTGAAA---GGAGCCAAGATCACGCGGCTC
                                                                                                       279 IleTrpAlaTyrTyrGluIleCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAsp
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APPLICANT: Rikpatrick, Robert
APPLICANT: Rikpatrick, Martin
TITLE OF INVENTION: HUMAN CARTILEGE GP39-LIKE GENE
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation
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1147 AAGAGTATGGAGACCAAGGTTCAGTTCTTAAAGAATTTAAACCTGGGAGGAGCCATGATC 1206
                                                                                                TrpAlalleAspLeuAspAspPheThrGlyThrPheCysAsnGlnGlyLyBPheProLeu 358
                  LysSerPheAspIleLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetVal 338
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                                                                                                                                                                                                                                                                                           Sequence 4, Application PC/TUS9407754
GENERAL INFORMATION:
APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A WARKER FOR
TITLE OF INVENTION: DEGRADATION OF MANMALIAN CONNECTIVE TISSUE MATRICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21 MetProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArg 40
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194
64
122
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Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                     STATE: CALIFORNIA
STATE: CALIFORNIA
STATE: USA
STATE: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
                                                                                                                                                                                                   359 IleSerThrLeuLygLysAlaLeuGly 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/07754
FILING DATE: 08-JUL-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: FD 3665
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/455-5100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 34,842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.99e-87
962.50
65.82%
49.49%
38.41%
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 619/455-5110
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC COM
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Best Local Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90067
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; LOCATION:
PCT-US94-07754-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE:
                  319
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299 AlaProGlnGluValProTyrAlaTyrClnGlyAsnValTrpValGlyTyrAspAsnIle 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ServallleLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyr 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyIleGlyAlaProThrSerGlyAlaGlyProAlaGlyProTyrAlaLysGluSerGly 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     388 AGTCTCAAAACCAAGAATCCCAAACTGAAAATTCTCTTGTCCATTGGAGGGTACCTGTTT 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     567
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaAlaValAlaAlaGlyIleSerAsnIleGlnSerGlyTyrGluIleProGlnLeuSer 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeulleValGlyPheProThrTyrGlyHisAsnPheIleLeuSerAsnProSerAsnThr 258
                                                                                                                                                                                                                      268 ACCCCTGAGAATATTGACCCCTTCCTATGCTCTCATCTCATTTCATTCGCCAGCATC 327
                                                                                                                                                                                                                                                                                                                                                                                     :::|||||||::::::
GAAAACAAGGTTATCATCAAGGACAAGAGTGAAGTGCTCTACCAGACCATCAAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyThrAlaProPheThrAlaMetValSerThrProGluAsnArgGlnThrPheIleThr 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 GlnTyrLeuAspTyrileHisValMetThrTyrAspLeuHisGlySerTrpGluGly--- 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---TyrThrGlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAla 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTATCACTGGCCACAACAGCCCTCTGAGCAAGGGGTGGCAGGACAGAGGCCAAGCTCC 852
                                                                                                                                                                                                   20
                                                                                                                                                                                                                                                                              21 MetProAspAsnIleAspProCysteuCysThrHisLeuIleTyrAlaPheAlaGlyArg 40
                                                                                                                                                                                                                                                                                                                                                              41 GlnAsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsn 60
                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GlyLeuLysAsnLysAsnSerGlnLeuLysThrLeuLeuAlaileGlyGlyTrpAsnPhe 80
                                                                                                                                                                                                 TyrGlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TyrLeuAsnValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLys
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                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                           US-10-004-219B-14 (1-455) x US-08-694-915-3 (1-1526)
                                                                                                                   Gaps:
                1.09e-87
970.50
69.11%
49.32%
38.73%
                                                                           Similarity:
                                                        Percent Similarity:
Alignment Scores:
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GCCTACTATGAGATCTGTGACTTCCTCGC---GGAGCCACAGTCCATAGAACCCTCGGC 1010
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                                                                                                                                                                                                                                                                                                                                                                            435 TCAGTACCGCCATTTCTGCGCACCCATGGCTTTGATGGGCGTGACCTTGCCTGGCTCTAC 494
                                                                                                                                                                                                                                                                                                                                                                                                                               ProGlySerArgGlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGlu 140
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnTyrLeuAspTyrIleHisValMetThrTyrAspLeuHisGlySerTrpGluGlyTyr 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrGlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeu 220
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717 ACAGGCCATCACAGTCCCTGTTCCGAGGTCAGGATGCAAGTCCTGACAGATTCAGC 776
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    893
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 894 CCAGGGCAATCTCAGGACCGGGAATTCCAGGCCGGTTCACCAAGGAGGCAGGACCCTT 953
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PheAspIleLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAla 340
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                                                                                               255 AGCAACGATCACATCGACACCTGGGAGTGGAATGATGACGGCCTCTACGGCATGCTCAAC 314
                                                                                                                                                                                                                                                GlyThrAldProPheThrAlaMetValSerThrProGluAsnArgGlnThrPheIleThr 100
                                                                                                                                                                                                                                                                          141 MetArgGluAlaPheGluGluGluAlaLysGluIleAsnLysProArgLeuMetValThr 160
GlnAsnAsnGluIleThrThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsn 60
                                                                                                                                                       61 GlyLeuLysAsnLysAsnSerGlnLeuLysThrLeuLeuAlalleGlyGlyTrpAsnPhe 80
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Db 1250 GCCAAGGAT------GCCCCGTCCCGTCTGGC 1276
Search completed: June 30, 2003, 01:12:06
Job time: 87.9519 secs

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Run on:

Searched:

Seguence:

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Sequence 1684, App
Sequence 1364, App
Sequence 13050, App
Sequence 2589, App
Sequence 3072, App
Sequence 3057, App
Sequence 14919, A
Sequence 14919, A
Sequence 1315, App
Sequence 1315, App
Sequence 1315, App
Sequence 12100, A
Sequence 12100, A
Sequence 12100, A
Sequence 1478, App
Sequence 1673, App
Sequence 10172, A
Sequence 10172, A
Sequence 10642, App
Sequence 4073, App
Sequence 4073, App
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Sequence 4073, App
Sequence 4073, App
Sequence 4073, App
Sequence 4073, App
Sequence 4073, App
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Sequence 26, Appl
Sequence 22, Appl
Sequence 17, Appl
Sequence 19, Appl
Sequence 16, Appl
Sequence 16, Appl
Sequence 678, Appl
Sequence 678, Appl
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Publication No. US20030087414A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Aercs, Johannes M.F.G.
APPLICANT: Boot, Rolf G.
TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and TITLE OF INVENTION: its use in therapy or prophylaxis against diseases file Reference: 2183-5136US
CURRENT APPLICATION NUMBER: US/10/004,219B.
CURRENT FILING DATE: 2001-11-02
NUMBER OF SEQ ID NOS: 14
                                                                                  Sequence 402,
                                                                                                                                                                             Sequence 40,
Sequence 42,
Sequence 37,
                                                                                                                                    Sequence 8,
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                                                                                                                                                                                                                                                                                                        Sequence
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US-09-96-352-7364
US-09-960-352-7364
US-09-960-352-23057
US-09-960-352-3057
US-09-960-352-3057
US-09-960-352-3072
US-09-960-352-14460
US-09-960-352-14460
US-09-960-352-3721
US-09-960-352-3721
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9 US-10-218-743-42

9 US-10-218-743-37

9 US-10-218-743-34

9 US-10-218-743-36

9 US-10-218-743-20

9 US-10-218-743-20

9 US-10-218-743-17

9 US-10-218-743-19

9 US-10-218-743-19

9 US-10-218-743-19

10-218-743-16

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US-09-960-352-1189
US-09-960-352-10172
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US-09-960-352-10642
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                                             GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                      - nucleic search, using frame_plus_p2n model
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US-10-004-219B-3
US-10-202-436A-14
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Maximum Match 100%
Listing first 45 summaries
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Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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                                                                                                      Score: 3.54e-280
Score: 2506.00
Percent Similarity: 100.00$
Best Local Similarity: 100.00$
Ouery Match: 100.00$
                    ; LOCATION: (104)..(1531)
US-10-004-219B-2
NAME/KEY: CDS
                                                                                     Alignment Scores:
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Sequence 3, Application US/10004219B
; Sequence 3, Application NS/2003087414A1
; Publication No.
; Bublication No.
; APPLICANT: Macrozyme
; APPLICANT: Arts, Johannes M.F.G.
; APPLICANT: Arts, Johannes M.F.G.
; TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
; TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
; TITLE OF INVENTION: A mammalian mucinase, its recombinant production, and
; TITLE OF INVENTION: Which mucus is involved or infection diseases
; FILE REFERENCE: 2183-513-608
; CURRENT APPLICATION NUMBER: US/10/004,219B
; CURRENT FILING DATE: 2001-11-02
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 3
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1127 TTCGATATTAAGGCTCAATGCTTAAGCACAACAAATTTGGAGGCGCCATGGTCTGGGCC
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FEATURE: OTHER INFORMATION: Description of Artificial Sequence: mouse AMCase FEATURE:
OTHER INFORMATION: CDNA sequence and deduced amino acid sequence
FEATURE:
NAME/KEX: CDS
INME/KEX: CDS
INME/KEX: CDS
US-10-004-2199-3
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Sequence 14, Application US/10202436A Publication No. US20030049261A1 GENERAL INFORMATION:
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APPLICANT: ELIAS, JACK A
APPLICANT: ZHO, ZHOU
TITLE OF INVENTION: MCLECULES AND INFLAMMATORY DISEASE
FILE REFERENCE: 044574-5107
CURRENT APPLICATION NUMBER: 0810/202,436A
CURRENT FILING DATE: 2002-10-17
PRIOR FILING DATE: 2001-07-24
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin version 3.1
SEQ ID NO 14
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; OTHER INFORMATION: AMCASE SENSE in Situ hybridization probe
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Matches:
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PRIOR FILING DATE: 2001-09-19
NUMBER OF SEQ ID NOS: 363
SOFTWARE: PSELSEQ for Windows Version 4.0
SEQ ID NO 44
LENGTH: 1925
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985.50
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CORGANISM: Homo sapiens
US-10-097-340-44
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Best Local Similarity:
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Pred. No.:
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TITLE OF INVENTION: Nucleic Acid Molecules and Proteins For The Identification,
TITLE OF INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
TITLE DE INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
TITLE DE INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
TITLE DE ILLIANG THE: 2002-03-14
CURRENT FILING DATE: 2002-03-14
PRIOR APPLICATION NUMBER: 60/225,149
PRIOR PILING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-26
PRIOR PELING DATE: 2001-03-14
PRIOR PELING DATE: 2001-03-14
PRIOR PELING DATE: 2001-03-14
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PRIOR PELING DATE: 2001-09-26
PRIOR PELING DATE: 2001-09-26
PRIOR PAPLICATION NUMBER: 60/325,102
PRIOR PAPLICATION NUMBER: 60/323,580
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Robert C. BAST, Jr.
Karen LU
Rosemarie SCHWANDT
Kumei ZHAO
Karen GLATT
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Sebastian HOERSCH
Shubhangi KAMATKAR
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Rachel E. MEYERS
Michael MORRISEY
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APPLICANT: DOHANSEN, JULIA S.
ITLE COF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
ITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
ITLE OF INVENTION: AMAMMALIAN CONNECTIVE TISSUE MATRICES
FILE REPERENCE: 407T-895411US
CURRENT APPLICATION NUMBER: US/09/215,077A
CURRENT FILING DATE: 1998-12-18
PRIOR PILING DATE: 1996-04-17
PRIOR FILING DATE: 1996-04-17
PRIOR FILING DATE: 1993-07-09
NUMBER OF SEQ ID NOS: 4
SOFTWARE: PATENTIN VET: 2.0
SEQ ID NO 4
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ORGANISM: Artificial Sequence
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GENERAL INFORMATION:
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TCAGTACCGCCATTTCTGCGCACCCATGGCTTTGATGGGCGTGACCTTGCCTGGCTCTAC
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APPLICANT: DOHANGEN, JULIA
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
TITLE OF INVENTION: ASSAY FOR YKL-40 AS A MARKER FOR DEGRADATION OF
TITLE OF INVENTION DATE: 1999-00-04
PRIOR APPLICATION NUMBER: US 08/089,989
PRIOR APPLICATION NUMBER: US 08/089,07754
PRIOR PILING DATE: 1994-07-08
PRIOR FILING DATE: 1994-07-08
PRIOR FILING DATE: 1996-04-17
NUMBER OF SEQ ID NOS: 4
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Matches:
Conservative:
Mismatches:
Indels:
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4, Application US/09262213A
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957.50
65.56*
49.49*
38.21*
                Patent No. US20020090658A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
CORGANISM: Homo sapiens
US-09-262-213A-4
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Best Local Similarity:
Query Match:
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LENGTH: 1681
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       281 AlaTyrTyrGluIleCysThrPheLeuLysAsnGlyAlaThrGlnGlyTrpAspAlaPro 300
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ThrGlyGluAsnSerProLeuTyrLysTyrProThrAspThrGlySerAsnAlaTyrLeu 220
                                                 ACAGGCCATCACAGTCCCCTCAGGCGAGGTCGAGGTGCAAGTCCTGACAGATTCAGC 776
                                                                                                                                                                                                           241 ValGlyPheProThrTyrGlyHisAsnPhelleLeuSerAsnProSerAsnThrGlyIle 260
                                                                                                                                                                                                                                    837 AIGGGCAICCCCACCTICGGAGGAGCTICACTCTGGCTICT---TCTGAGACTGGTGT 893
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APPLICANT: Resnick, Richard J.
APPLICANT: Glulwota, Kamalakar
APPLICANT: Glulwota, Kamalakar
TILLE OF INVENTION: POLYNUCLEOTIDES ENCODING NOVEL SECRETED PROTEINS
FILLE REPRENCE: GIN 6402
CURRENT FILING DATE: 2001-03-29
PRIOR FILING DATE: 2000-04-06
NUMBER OF SEQ ID NOS: 631
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 402
                                                                                                                                   894 ccadcdccaarcrcagaaccgdaarrccaggccgcrrcaccaaggaggcaggaccrr
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                                                                                                     AsnValAspTyrValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIle
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No. US20020142952A1
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APPLICANT: Wong, Gordon G.
APPLICANT: Clark, Hilary
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US-09-822-830A-402
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LOCATION: 1353
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ORGANISM: Homo sapiens
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4.24e-91
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34.86%
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ORGANISM: Homo sapiens
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Best Local Similarity:
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                                                                                                       GlyThrAlaProPheThrAlaMetValSerThrProGluAsnArgGlnThrPheIleThr 100
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                                                                                                                                  21 MetProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArg 40
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                                                                                                                                                                                                             GlyLeuLygAsnLysAsnSerGlnLeuLysThrLeuLeuAlaileGlyGlyTrpAsnPhe 80
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         1391
176
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111
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                                                                          US-10-004-219B-14 (1-455) x US-09-822-830A-402 (1-1391)
         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
        6.24e-97
923.50
67.48%
47.70%
                                  Best Local Similarity:
Query Match:
                            Percent Similarity:
Alignment Scores:
Pred. No.:
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Sequence 8, Application US/09765231A;
Sequence 8, Application US/09765231A;
Patent No. US20020119452A1
GENERAL INFORMATION:
APPLICANT: Searle/Monsanto
APPLICANT: Vasanthakamur, Geetha
APPLICANT: Dotson, Stanton
APPLICANT: Ma, Xiao-Jun
TITLE OF INVENTION: Ostcoarthritis tissue-derived nucleic acids, polypeptides,
TITLE OF INVENTION: vectors, and cells
FILE REFERENCE: SO-3221 PR
CURRENT APPLICATION NUMBER: US/09/765,231A
CURRENT FILING DATE: 2001-01-18
NUMBER OF SEQ ID NOS: 82
                                                                                                           eThrSerVallleLysPheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGl 119
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LysSerPheAspIleLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetVal
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| GTTTGGTTCCAAAGGGTTCCACCCTATGGTGGATTCTTCTACATCACGCTTGGAATTCAT
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Matches:
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              42 AsnAsnGluIleThrThr-------
                                 TYPE: DNA
ORGANISM: Dermatophagoides farinae
                                                                                                                                                                                        711.50
54.17%
36.52%
28.39%
                                                                                                   ..(1470)
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Best Local Similarity:
Query Match:
DB:
                                                                                 ; NAME/KEY: CDS
; LOCATION: (1)
US-10-218-743-40
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Publication No. US20030096779A1

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Wecall, Catherine A.

APPLICANT: Weber, Exit R.

APPLICANT: Work W.

APPLICANT: Weber, Exit R.

TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS

TITLE OF INVENTION: AND USES THEREOF

TITLE OF INVENTION: AND USES THEREOF

TITLE OF INVENTION: AND USES THEREOF

TITLE OF INVENTION: AND USES THEREOF

FILE REFERENCE: AL-2-2

CURRENT APPLICATION NUMBER: US/19/29/225

PRIOR APPLICATION NUMBER: 60/098,909

PRIOR PILING DATE: 1999-09-15

PRIOR APPLICATION NUMBER: 60/098,295

PRIOR APPLICATION NUMBER: 60/098,565

PRIOR APPLICATION NUMBER: 60/098,565

PRIOR APPLICATION NUMBER: 09/062,013

PRIOR APPLICATION NUMBER: 09/062,013

PRIOR APPLICATION NUMBER: 09/062,013

PRIOR PILING DATE: 1998-04-17

PRIOR APPLICATION NUMBER: 09/062,013

PRIOR PILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 49

SOFTWARE: PATCHIN VET. 2.0
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nGluMetArgGluAlaPheGluGluGluAlaLysGlnIleAsnLysProArgLeuMetVa 159
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                    542 TGAGTTAGCAGAAGCCTTTCAGAAGGACTTCACAAAATCCACCAAGGAAAGGCTTCTCTT
                                                                    159 lThrala-AlavalAlaAlaGlyIleSerAsnIleGlnSerGlyTyrGluIleProGlnL
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Gactgcgggggtatctgcagggaggcaaatgattgataacagctatcaagttgagaaac
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                                                                                                                                                                     1311 GAATACAAATACACCATTCAAGTTTTTGATCCATTTCAAGATGATAACCATAACTCATGG 1252
                                                                                                                                                                                                                                                         ---GAAAAACACGGGTATGAACGTTTCAACAACTTGAGGATTGAAGAATCCAGAATTGACC 1195
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APPLICANT: Huncer, Shirley Wu
APPLICANT: Huncer, Shirley Wu
APPLICANT: Huncer, Shirley Wu
APPLICANT: Huncer, Shirley Wu
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REPERRORE: AL-0-0
FURRENT FILING DATE: 2002-08-13
CURRENT FILING DATE: 1999-04-15
PRIOR FILING DATE: 1999-04-15
PRIOR PAPLICATION NUMBER: 60/098,909
PRIOR PILING DATE: 1998-05-13
PRIOR APPLICATION NUMBER: 60/098,295
PRIOR PILING DATE: 1998-05-13
PRIOR PILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR FILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
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                                                                                                                                                                     916 Trccagaaagaarggcaratrcaaracgargaararracaargcrccaracgarar 975
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                                         ProAlaGlyProTyrAlaLysGluSerGlyIleTrpAlaTyrTyrGluIleCyg---Thr 287
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GCTTGGAGCATCGAAGATCGAAGCAAAGTCAAACTTGGCGATCCGGCCAAAGGCATGTCT 855
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SOFTWARE: Patentin Ver.
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APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Eric R.
TITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
91 ThrProGluAsnArgGlnThrPheIleThrSerValIleLysPheLeuArgGlnTyrGlu 110
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                                                                                              111 PheaspGlyLeuaspPheaspTrpGluTyrProGlySerArg---GlySerProProGln 129
                                                                                                                                        454 Trccarcccracarrrccarraccarraccrccarcacccracarccraaarc 513
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Publication No. US20030096779A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                        Sequence 37, Application US/10218743
Sequence 37, Application US/10218743
Publication No. US20030096779A1
GENERAL INFORMATION:
APPLICANT: MURCA11, Catherine A. APPLICANT: Hunter, Shirley Wu.
APPLICANT: Weber, Eric R.
ITILE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCTITLE OF INVENTION: AND USES THEREOF;
FILE REFERENCE: AL-2-C.
CURRENT APPLICATION NUMBER: US/09/292,225
PRIOR PILING DATE: 1999-04-15
PRIOR FILING DATE: 1999-04-15
PRIOR FILING DATE: 1998-06-13
PRIOR FILING DATE: 1998-06-13
PRIOR PILING DATE: 1998-06-13
PRIOR PILING DATE: 1998-06-13
PRIOR PILING DATE: 1998-06-13
PRIOR PILING DATE: 1998-04-17
PRIOR PILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR PILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR PILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR PILING DATE: 1998-04-17
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SEQ ID NO 37
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; LOCATION: (1)
US-10-218-743-37
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APPLICANT: McCall, Catherine A.
APPLICANT: Wacall, Catherine A.
APPLICANT: Wacall, Catherine A.
APPLICANT: Wacarl, Shirley Wu
APPLICANT: Wacarl, CR.
ITLE OF INVENTION: AND USES THEREOF
FILE REPERRNCE: AL-2-C3
CURRENT FILING DATE: 1999-04-15
FRIOR APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 1999-04-15
FRIOR APPLICATION NUMBER: 06/098,909
FRIOR APPLICATION NUMBER: 60/098,909
FRIOR APPLICATION NUMBER: 60/098,909
FRIOR PILING DATE: 1998-09-02
FRIOR APPLICATION NUMBER: 60/098,565
FRIOR PILING DATE: 1998-04-17
FRIOR PILING DATE: 1998-04-17
FRIOR FILING DATE: 1998-04-17
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                                                                                                                                                                                           CGACCCGATGAAACGGATGAATTGCACACTTACTTCAATGTCAACTACCATGCACTAT 736
                                                                                                                                                                                                                                                                                                                                            249 AsnPhelleLeuSerAsnProSerAsnThrGlylleGlyAlaProThrSerGlyAlaGly 268
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Publication No. US20030096779A1
GENERAL INFORMATION:
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ORGANISM: Dermatophagoides farinae
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             190 ThrTyrAspLeuHisGlySerTrpGluGlyTyrThrGlyGluAsnSerProLeuTyrLys 209
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Matches:
Conservative:
Mismatches:
Indels:
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TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 2002-08-13
PRIOR APPLICATION NUMBER: US/09/292,225
PRIOR APPLICATION NUMBER: 60/098,909
PRIOR FILING DATE: 1998-04-15
PRIOR FILING DATE: 1998-05-13
PRIOR FILING DATE: 1998-05-13
PRIOR FILING DATE: 1998-05-13
PRIOR PLING DATE: 1998-04-17
PRIOR PLING DATE: 1998-04-17
PRIOR PLING DATE: 1998-04-17
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NUMBER OF SEO ID NOS: 49
SOUTWARE: PATENT OF THE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE 
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US-10-218-743-39
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Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1527
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Sequence 36, Application US/10218743

Publication No. US20030096779A1

GENERAL INFORMATION:
APPLICANT: McCall, Catherine A.
APPLICANT: Hunter, Shirley Wu
APPLICANT: Hunter, Shirley Wu
APPLICANT: Weber, Eric R.
ITLE OF INVENTION: NOVEL DERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
ITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL-2-C3
CURRENT PELLING DATE: 2002-08-13
PRIOR PILLING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: US/09/292,225
PRIOR APPLICATION NUMBER: 60/098,909
PRIOR FILING DATE: 1998-05-02
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR PELLING DATE: 1998-04-17
PRIOR PILLING DATE: 1998-04-17
PRIOR PILLING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR APPLICATION NUMBER: 60/098,565
PRIOR APPLICATION NUMBER: 09/062,013
PRIOR FILLING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
SOFFWARE PLANCE PATENTIN VUMBER: 09/062,013
PRIOR FILLING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 49
                                               986 Trccagaaagaargacararrcaaracgargaararracaargcrccaracgarar 1045
                                                                                                        1220 GGTGATGAAAAGAACTCTTACGAATGTCTTTTGGGCCCAAGTACAACCACACCAACA--- 1276
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              PheLeulysAsnGlyAlaThrGlnGlyTrpAspAlaProGlnGluValProTyrAlaTyr 307
                                                                                  308 GlnGlyAsnValTrpValGlyTyrAspAsnIleLysSerPheAspIleLysAlaGlnTrp 327
                                                                                                                                                                                                                          328 LeulysHisAsnLysPheGlyGlyAlaMetValTrpAlaIleAspLeuAspAspPheThr
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36.52%
28.39%
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Best Local Similarity:
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| ATTGACGTAGCTTATGAGCTCAAAGAATTGAACCAATTGTTCGATTGGATGAATGTCATG
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Matches:
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                                                                                                     711.50
54.17%
36.52%
28.39%
              ; LOCATION: (14)..(1540)
US-10-218-743-34
                                                                                                                       Percent Similarity:
Best Local Similarity:
NAME/KEY: CDS
                                                                   Alignment Scores:
Pred. No.:
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APPLICANT: McCall, Catherine A.
APPLICANT: Hunter, Shirley Wu
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APPLICANT: Weber, Exiz B.
APPLICANTON: NOVEL BERMATOPHAGOIDES NUCLEIC ACID MOLECULES, PROTEINS
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: AL.2-C3
CURRENT APPLICATION NUMBER: US/10/218,743
CURRENT FILING DATE: 1999-04-13
FRIOR PLILING DATE: 1999-04-13
FRIOR PELICATION NUMBER: 60/098,909
FRIOR PELICATION NUMBER: 60/098,565
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379 ProlleGluProlleThrAlaAla 386
                                                345 cchaccacccccracracracg 322
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; Sequence 20, Application US/10218743
; Publication No. US20030096779A1
; GENERAL INFORMATION:
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ORGANISM: Dermatophagoides farinae
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53.98%
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US-10-218-743-20
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                                                                                                                             51 AsnAspValThrLeuTyrGlnAlaPheAsnGlyLeuLysAsnLysAsnSerGlnLeuLys 70
                                                                                                                                                                                                                              ThrLeuLeuAlaIleGlyGlyTrpAsnPheGlyThrAlaProPheThrAlaMetValSer
                           42 AsnAsnGluIleThrThr--
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916 AATGATAAATCTGGGTCGGTTACGATGATCTGGCCAGTATATCATGCAAGTTGGCTTTC 1035
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                                                                           AsplysHisLeuPheThrValLeuValGlnGluMetArgGluAlaPheGluGlnGluAla 149
                                                                                                        150 LysGlnIleAsnLysProArgLeuMetValThrAlaAlaValAlaAlaGlyIleSerAsn 169
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                                                                                                                                                                                                                              --- TACTTGTTGACTGCTGCAGTATCACCAGGTAAAGACAAA
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Search completed: June 30, 2003, 03:58:41 Job time : 190.913 secs

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MEDIATE-S464658; PubMed=8245017;
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Hakala B.E., White C., Recklies A.D.;
"Human cartilage gp-39, a major secretory product of articular chondrocytes and synovial cells, is a mammalian member of a chitinase procein family."; 201. Biol. Chem. 268:25803-25810(1993).
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Nyirkos P., Golds E.E.;
"Human synovial cells secrete a 39 kDa protein similar to a bovine mammary protein expressed during the non-lactating period.";
Biochem. J. 269:265-268(1990).
-!- FUNCTION: MAY PLAY AN IMPORTANT ROLE IN THE CAPACITY OF CELLS TO RESPOND TO AND COPE WITH CHANGES IN THEIR ENVIRONMENT.
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01-JUL-1993 (Rel. 26, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Chitinase-3 like protein 1 precursor (Cartilage glycoprotein-39)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDAP 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PGRR----DKQHFTTLIKEMKAEFIKEA-QPGKKQLLLSAALSAGKVTIDSSYDIAKIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 YOLTCYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22 YKLVCYYTSWSQYREGDGSCFPDALDRFLCTHIIYSFANISNDHIDTWEWNDVTLYGMLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGYEIPQLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQG-KFPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
TISSUE SPECIFICITY: PRESENT IN ARTICULAR CHONDROCYTES, SYNOVIAL CELLS AS WELL AS IN LIVER. UNDETECTABLE IN MUSCLE TISSUES, LUNG, PANCREAS, MONONUCLEAR CELLS, OR FIBROBLASTS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39.0%; Score 976.5; DB 1; Length 383; 51.2%; Pred. No. 4.9e-64; live 62; Mismatches 108; Indels 9
                                                                                                   SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHITINASE-3 LIKE PROTEIN 1.
N-LINKED (GLCNAC. . .) (POI
76ADD8298EEEC2D1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco.hydro_18.
Edm; PF00704; Glyco.hydro_18; 1.
ProDom; PD000471; Glyco.hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                    CAA69661.1; JOINED.
CAA69661.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                             CAA69661.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; Y08378; CAA69661.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C3L2_HUMAN STANDARD;

ID C3L2_HUMAN STANDARD;

D C312_HUMAN STANDARD;

DT C5-2001 (Rel. 40, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            383 AA; 42613 MW;
                                                                                                                                                                                                                                                                                                                                                EMBL; M80927; AAA16074.1; -.
EMBL; Y08374; CAA69661.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 51.2<sup>3</sup>
Matches 188, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genew; HGNC:1932; CHI3L1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
383
60
                                                                              PTM: GLYCOSYLATED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ::| ||
374 NAIKDAL 380
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycoprotein; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIR; S10677; S10677
PIR; A33162; A33162
                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; Y08377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MIM; 601525;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                 181 QYLDYIHVMTYDLHGSWEG--YTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEK 238
                                       239 LIVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWD 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=94058981; PubMed=8240241;
Malette B., Bleau G.;
Malochemical characterization of hamster oviductin as a sulphated
zona pellucida-binding glycoprotein.";
Biochem. J. 295:437-445(1993).
-! FUNCTION: BINDS TO OCOTTE ZONA PELLUCIDA IN VIVO, MAY PLAY A ROLE
IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
MIGHT ACT AS A PROTECTIVE SECRETION INFLUENCING THE FIRST STEPS OF
THE REPRODUCTIVE PROCESS NECESSARY FOR THE NORMAL TRIGGERING OF
                                                                                                                                                                                                                                                       299 APQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Cricetinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OGENTAL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKEL STANKE STANKE STANKE STANKE STANKE STANKE STANKE STANKE STANKE STANKE STANKE S
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C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE SPECIFICITY: OVIDUCT.
PTM: HIGHLY O-GLYCOSYLATED AND ALSO N-GLYCOSYLATED.
SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Paquette Y., Merien Y., Malette B., Bleau G.;
"Allelic polymorphism in the hamster oviductin gene is due variable number of mucin-like tandem repeats.";
Mol. Reprod. Dev. 42:388-396(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FERTILIZATION AND EARLY EMBRYONIC DEVELOPMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: Secretory granules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 14-671 FROM N.A., AND REVISIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A., AND PARTIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96115007; PubMed=7492686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=96192955; PubMed=8607967;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biol. Reprod. 53:345-354(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 22-671 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                    359 ISTLKKALG 367
                                                                                                                                                                                                                                                                                                                                                                                                                     380 VQAVKRSLG 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 22-39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Oviduct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FISSUE=Oviduct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         glycoprotein.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Oviduct
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 GLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWEY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
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N-LINKED (GLCNAC. .) (POTENTIAL).

MGATTHORKEL -> SQUIMIGSPDEWLYLVCEHTHIFT
ALIMDSRIRFGSIDFSFHPSI (IN LONG ISOFORM).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Articular cartilage;

MEDLINE=96325055; Pubmed=8702629;

Hu B., Trinh K., Figueira W.F., Price P.A.;

"Isolation and sequence of a novel human chondrocyte protein related to mammalian members of the chilinase protein family.";

J. Biol. Chem. 271:19415-19420(1996).

-I. ALTERNATIVE PRODUCTS: 2 ISOFORMS; A SHORT FORM (SHOWN HERE) AND A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTLYQAFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SLKTRONPKLKILLSIGGYLFGSKGFHPMVDSSTSRLEFINSIILFLRNHNPDGLDVSWIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (SHORT AND LONG ISOFORMS).
Grossman A., Matsuyama T., Baker E., Waterhouse P., Sutherland G.R.,
                                                                 (Chondrocyte protein
                                                                                                                                                                                           Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LONG FORM, MAY BE PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: HIGHEST EXPRESSION IN CHONDROCYTES,
BY SYNOVIOCYTES, LUNG AND HEART. NOT DETECTED IN BRAIN,
PANCREAS, AND LIVER.
                                                                                                                                                                                                                                                                                                                                                                                                               "Cloning of a novel lymphoid restricted human chitinase and localization to 1p13.3.";
Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -! - SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES
                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Butele
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           49.3%; Pred. No. 1. 20., tive 73; Mismatches 105; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97B86A2F3AA35677 CRC64;
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Chitinase 3-like protein 2 precursor (YKL-39)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco_hydro_18.
Prom; PP00704; Glyco_hydro_18; 1.
ProDon; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; FALSE_NEG.
Hydrolase; Signal; Alternative splicing.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or send an email to license@isb-sib.ch)
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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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EMBL; U15048; AAC55584.1; -.

InterPro; IPR001579; Chitinase 18/2.

InterPro; IPR001523; Glyco hydro 18.

Pfam; PF00704; Glyco hydro 18, 1.

ProDom; P0000471; Glyco hydro 18; 1.

PROSITE; PS01095; CHITINASE 18; FALSE NEG.
Glycoprotein; Fertilization; Repeat; Signal.
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Endocrinol. 5:356-364(1991).
FUNCTION: BINDS TO COCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROLE
IN THE PERTILIZATION PROCESS AND/OR BARLY EMBRYONIC DEVELOPMENT.
SUBCELLULAR LOCATION: Secretory granules.
TISSUE SPECIFICITY: OVIDUCT.
DEVELOPMENT, STAGE: AT THE THE OF OVULATION.
SIMILARITY: BELONGS TO PAMILY 18 OP GLYCOSYL HYDROLASES.
                                                                               1 YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWND-VTLYQAF
                                                                                                                                                                                                                                                                                                                    202 GRLLDFINVLSYDLHGSWERFTGHNSPLFSLPEDPKSSA----YAMNYWRKLGAPSEKL
                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Oviduct;
MEDLINE=98244335; PubMed=9584944;
Verhage H.G., Fazleabas A.T., Mavrogianis P.A., O'Day-Bowman M.B.,
Donnelly K.M., Arias B.B., Jaffe R.C.;
"The baboon oviduct: characteristics of an oestradiol-dependent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Papio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997 (Rel. 15, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Oviduct-specific glycoprotein precursor (Oviductal glycoprotein)
(Oviductin) (Estrogen-dependent oviduct protein).
                                             7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Cloning of a recombinant complementary DNA to a baboon (Papio
               Length 678;
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Donnelly K.M., Fazleabas A.T., Verhage H.G., Mavrogianis P.A.
                                               Indels
          38.3%; Score 959.5; DB 1;
49.3%; Pred. No. 1.8e-62;
tive 56; Mismatches 129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                623 AA
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Hum. Reprod. Update 3:541-552(1997).
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                                             187; Conservative
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                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9555;
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P36718;
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Matches
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                                                                                                                                                                                                                                                                      R EMBL; MSSYCS, 1279-18.

R PIRI, A37954, A37954.

R PRI, A37954, A37954.

R InterPro; IPR001223; Glyco_hydro_18.

DR ProDom; PD000471; Glyco_hydro_18; 1.

DR PROSITE; PS01095; GHITINAED 18; 1.

DR PROSITE; PS01095; GHITINAED 18; 1.

FT SIGNAL 1 21 BR SIMILARITY.

FT CALIN 2 623 N-LINKED (GLCNAC. .) (POTENTIAL).

FT CARBOHYD 402 402 N-LINKED (GLCNAC. .) (POTENTIAL).

FT A11 N-LINKED (GLCNAC. .) (POTENTIAL).
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Bukaryota; Metazooa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos
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01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
04-NOV-1997 (Rel. 35, Last annotation update)
04-NOV-1997 (Rel. 35, Lest annotation update)
05-NOV-1997 (Rel. 35, Lest annotation update)
05-NOV-1997 (Rel. 35, Lest annotation update)
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48.8%; Pred. No. 3.6e-62;
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us-10-004-219b-14.rsp

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MEDINE-96329120; PubMed-8726871;

MEDLINE-96329120; PubMed-8726871;

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                                                                                                                                                                                                                                                                         Desouza M.M., Murray M.K.;
"An estrogen-dependent secretory protein, which shares identity with chitinases, is expressed in a temporally and regionally specific manner in the sheep oviduct at the time of fertilization and embryo
                   (Oviductin) (Estrogen-Tependent oviduct protein) (Estrus-associated oviducal glycoprotein) (OEGP).
OVGP1 OR OGP.
                                                                                 Ovis aries (Sheep).

Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Oviductal
                                                                                                                                                                                                          SEQUENCE FROM N.A., AND SEQUENCE OF 22-39
Oviduct-specific glycoprotein precursor
                                                                                                                                                                                                                                                                                                                                                                                 Endocrinology 136:2485-2496(1995).
                                                                                                                                                                                                                                                      MEDLINE=95269691; PubMed=7750470;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; U16719; AAC48471.1; -. EMBL; U17988; AAB01052.1; -.
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Matches 179; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                 glycoprotein.";
Biol. Reprod. 50:927-934(1994).
-i. FUNCTION: BINDS TO OCCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROI IN THE PERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT -: SUBCELLULAR LOCATION: Secretory granules.
-i. TISSUE SPECIFICITY: OVIDUCT.
-i. TISSUE SPECIFICITY: DELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -1 18 OVIDUCT-SPECIFIC GLYCLENCES 399 399 N-LINKED (GLCNAC. . .) (POTENTIAL) 537 AA; 59617 MW; CFDCEE6F0212D791 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7;
                                     Sendai Y., Abe H., Kikuchi M., Satoh T., Hoshi H.; "Purification and molecular cloning of bovine oviduct-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 37.6%; Score 943.5; DB 1; Length 537; Best Local Similarity 49.6%; Pred. No. 1.9e-61; Matches 182; Conservative 53; Mismatches 125; Indels 7;
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Last annotation update)
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InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco.hydro.18.
ProDom; PF00704; Glyco.hydro.18.
ProDom; PS01095; CHITINASE 18; 1.
PROSITE; PS01095; CHITINASE 18; FALSE.NEG. Glycoprotein; Fertilization; Signal.
NON TER -1 18
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                        MEDLINE=94257768; PubMed=8199272;
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Q28542; Q28543;
01-NOV-1997 (Rel.
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30-MAY-2000 (Rel.
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SEQUENCE
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K -> N (IN REF. 2).
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                                                                                                                                                                                                                                                                                                                        EMBL, U17988; AABULUSZ.1, .
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco hydro 18.
Probom; PF00704; Glyco hydro 18; 1.
Probom; PF01095; CHITINAEL 18; FALSE NEG.
Glycoprotein, Fertilization; Signal.
SIGNAL
CHAIN
22 539 OVIDUCT-SPECIFIC GLYCOPROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59; Mismatches 122; Indels
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29 81

Gaps

23;

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage, by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isp-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240 IVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDA 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300 PQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFTGTFCNQGKFPLI 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     316 HQYVPYAYRGKEWVGYDDDISFSYKAFFIKKEHFGGAMVWTLDLDDVRGTFCGTGFFPLV 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                           82 NQLKERNEKLKTLLSIGGWNFGTSRFTTMLSTFTNREKFIRSAIGLLRTHGFDGLDLFFL
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                                                                                                                                                                                                                                                                              1 YOLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAGRQNNEITTIEWNDVTL-YQAF
                                                                                                                                                                                                                                                                                                                      22 HKLVCYFANWAFSRPGPASILPRDLDPFLCTHLVFAFASMNDSQIVAKDARDESIFYPEF
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-!- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-accey1-0-glucosamine polymers of chitin.
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Metazoa, Nematoda, Chromadorea, Rhabditida, Rhabditoidea,
Rhabditidae, Peloderinae, Caenorhabditis.
NCBI_TaxID=6239;
N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                     Query Match 37.4%; Score 936.5; DB 1; Length 527; Best Local Similarity 47.3%; Pred. No. 6e-61; Matches 186; Conservative 61; Mismatches 123; Indels 23
                                    441 N-LINKED (GLCNAC. . .) (PC 58519 MW; 31B78F49CA2363A2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | | | :: | | | | 376 YMLNDLLLKAEVSSTLSPGFGLSTTVNSSRTCP 408
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01-NOV-1997 (Rel. 35, Last sequence update)
NLOV-1997 (Rel. 35, Last annotation update)
Putative endochitinase (EC 3.2.1.14).
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InterPro, IPR002557, Chitin bind PerA.
InterPro, IPR001579, Chitinase 18/2.
InterPro, IPR001223; Glyco_hydro_18.
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527 AA;
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   CARBOHYD
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                                                                    NGLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWE 119
                                                                                                     239
                                                                                                                                                                                                                                                                                                                                                                                                                    256
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LMGLPTYGRTFHLLRASQNELGAGAAGPASPGKYTKQAGFLAYYEVCSFVQR-AKKRWIN 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316 DQYVPYAFKGKEWVGYDDAISFGYKAFFIKREHPGGAMVWTLDLDDPRGNFCGTGPFPLA 375
22 HKLVCYFTNWAFSRPGSASILPRDLDPFLCTHLVFAFASMNNQIVPKDPLDEKILYPEF 81
                                                                                                                                                                                                                                                                                                                                               180 SQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGAPAEKL.
                                                                                                                                                                                                                                                                                                                                                                                       202 GRLIDFISVLSYDLHGSWEKVTGHNSPLFSLPGDPKSSA-----YAMSYWRQLGVPPEKL
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Biol. Reprod. 55:1305-1314(1996).
-!- FUNCTION: BINDS TO OCCYTE ZONA PELLUCIDA IN VIVO. MAY PLAY A ROI IN THE FERTILIZATION PROCESS AND/OR EARLY EMBRYONIC DEVELOPMENT.
-!- SUBCELLULAR LOCATION: Secretory granules.
-!- TISSUE SPECIFICITY: OVIDUCT.
-!- SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; U43490; AAA85445.1; ..

InterPro; IPR001223; Glyco_hydro_18.

InterPro; IPR001223; Glyco_hydro_18.

Pfam; PF00104; Glyco_hydro_18; 1.

Probom; PD000471; Glyco_hydro_18; 1.

PROSITE; PS01095; CHITINASE 18; PALSE NEG.

Glycoprotein; Fertilization; Signal.

SIGNAL

1 21 BY SIMILARITY.

CHAIN 22 527 OVIDUCT-SPECIFIC GLYCOPROTEIN.

**Author of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair of Chair o
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-YORKSHIRE X Duroc X Hampshire; TISSUE-Oviduct;
STRAIN-YORKSHIRE X Duroc X Hampshire; TISSUE-Oviduct;
MEDLINE=97107140; PubMed=8949888;
Buhi W.C., Alvarez I.M., Choi I., Cleaver B.D., Simmen F.A.;
"Molecular cloning and characterization of an estrogen-dependent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997 (Rel. 35, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Oxiduct-specific glycoprotein precursor (oxiductal glycoprotein)
(Oxiductin) (Estrogen-dependent oxiduct protein) (POSP-E3).
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STANDARD;
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NAIKDAL 380
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                287 TFLKNGATQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDF
                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHIJL) OR BRESS.
Whus musculus (Mouse).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                 pfam; PF01607; CBM 14; 2. Probability PF01607; CBM 14; 2. Probom; PD000471; Glyco hydro_18; 1. SMART; PS000494; ChtBD2; 2. PROSITE; PS01095; CHITINASE 18; 1. Hypochetical protein; Hydrolase; Glycosidase; Chitin degradation. Hypochetical protein; Hydrolase; Glycosidase; Chitin degradation. DOMAIN 435 478 THR.RICH. SEQUENCE 617 AA; 66857 MW; DDAIDZAAAC0ES4DA CRC64;
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16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                       46;
                                                                                                                                                                                                                                      35.3%; Score 885; DB 1; Length 61 39.2%; Pred. No. 4.2e-57; ative 80; Mismatches 169; Indels
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STRAIM-EVB/N: TISSUE=Breast;
MEDLINE=95660797; Pubmed=7970700;
Morrison B.W., Leder P.;
Morrison B.W. Leder P.;
Morrison B.W., Leder P.;
Morrison B.W., Leder P.;
Oncogene 3:3417-3426(1994).
Pfam; PF00704; Glyco_hydro_18; 1
                                                                                                                                                                                                                                                              Best Local Similarity 39.28
Matches 190; Conservative
                                                                                                                                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240 IVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGATQGWDA 299
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 YOLICYFINWAQYRPGLGRFMPDNIDPCLCTHLIYAFAG-RQNNEITTIEWNDVTLYQAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60 NGLKNKNSQLKTLLAIGGWNFGTAPFTAMVSTPENRQTFITSVIKFLRQYEFDGLDFDWE
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01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1995 (Rel. 31, Last annotation update)
01-FBB-1995 (Rel. 31, Last annotation update)
Endochitinase precursor (EC 3.2.1.14).
Manduca sexta (Tobacco hawkmoth) (Tobacco hornworm).
Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda Insecta; Pterygota; Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia; Sphingiodea; Sphingidae; Sphinginae; Manduca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL.
CHITINASE-3 LIKE PROTEIN 1.
N-LINKED (GLCNAC. . .) (POTENTIAL)
FUNCTION: MAY PLAY AN IMPORTANT ROLE IN THE CAPACITY OF C. RESPOND TO AND COPE WITH CHANGES IN THEIR ENVIRONMENT (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 381;
                                                                                                             SUBCELLULAR LOCATION: Extracellular (By similarity). SIMILARITY: BELONGS TO FAMILY 18 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 35.1%; Score 879.5; DB 1; Length Best Local Similarity 47.1%; Pred. No. 5.7e-57; Matches' 173; Conservative 66; Mismatches 119; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -LINAED (GLUNAC. . .) (PARES BEFS 18480450 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, X93035, CAA63603.1; -. MGD, MGI:1340899; Chi311.
InterPro; IPR001579; Chitinase 18/2.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18; 1.
ProDom; PD000471; Glyco_hydro_18; 1.
PROSITE; PS01095; CHITINASE_18; PALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          381 AA; 43001 MW;
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us-10-004-219b-14.rsp

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175 EIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNGA 234
                                                                                                                                                                                                                                                                                                                                                                                              FCAVRANGLYPVANNRNAFWHCVNGVTYQQNCQAGLVFDTSCDCCNW 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
Endochitinase precursor (EC 3.2.1.14) (MF1 antigen).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         504
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MEDLINE=92179220; PubMed=1542646;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DWEYPGS--RGSPPQDKHLFTVLVQEMREAFEQEAKQINKPRLMVTAAVAAGISNIQSGY 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 RIVCYFSNWAVYRPGVGRYGIEDIPVEKCTHIIYSFIGVTEGNSEVLIIDPELDVDKNGF 83
                                                                                                                                                                                                                                                                                                                                acetyl-D-glucosamine polymers of chtin.
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: EPIDERMIS AND GUT.
-!- DEVELOPMENTAL STAGE: HIGH LEVELS SEEN IN THE EPIDERMIS ON DAY 0,
BUT RAPIDLY DISAPPEARS AND IS UNDETECTED ON DAYS 1-4 OF FIFTH
INSTAR. IT REAPPEARS ON DAY 5 AND PEAKS ON DAY 7 AFTER WHICH A
RAPID DECLINE IS SEEN. IN THE GUT IS DETECTED ON DAY 6 WITH LOWER
LEVELS SEEN ON DAYS 0, 7 AND 8.
-!- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
              SEQUENCE FROM N.A. MEDIINE=93157793; PubMed=8353525; Mathukrishnan S.; Kramer K.J., Corpuz L., Choi H.K., Muthukrishnan S.; "Sequence of a cDNA and expression of the gene encoding epidermal and gut chitinases of Manduca sexta."; Insect Biochem. Mol. Biol. 23:691-701(1993).
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                                                                                                                                                                      MEDILINE=97215580; PubMed=9061927;
Choi H.K., Choi K.H., Krämer K.J., Muthukrishnan S.;
Choi H.K., Choi K.H., Krämer K.J., Muthukrishnan S.;
"Isolation and characterization of a genomic clone for the gene of insect molting enzyme, chitinase.";
Insect Biochem. Mol. Biol. 27:37-47(1997).
-1- FUNCTION: DIGEST CHITIN IN THE EXOSKELETON DURING THE MOLTING
                                                                                                                                                                                                                                                                                                                  -!- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00494; ChtBD2; 1.
PROSITE; PS01095; CHITINASE 18; 1.
Hydrolase; Glycosidase; Chitin degradation; Signal; Glycoprotein.
POTENTIAL.....
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(POTENTIAL).
(POTENTIAL).
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N-LINKED (GLCNAC. .) (POTE
N-LINKED (GLCNAC. .) (POTE
N-LINKED (GLCNAC. .) (POTE
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Matches 185; Conservative
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146 , 146
85 85
303 303
407 407
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554 AA;
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                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HYDROLASES).
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199 HVPELCQELDAIHVMSYDLRGNWAGPADVHSPLYKRPHDQWAYEKLNVNDGLHLWEEKGC 258
                                                                                                                                       --KNGATQGWDAPQEVPYAYQGNVWVGYDNIKSFDIKAQWLKHNKFGGAMVWAIDLDDFT 347
                                                                                                                                                                                                                                                                          319 KDDSGWTKKWDEQGKCPYAYKGTQWVGYEDPRSVEIKOMWIKQKGYLGAMTWAIDMDDFQ 378
                                                                                                                                                                                                                                                                                                                                                                             GTFCNQGKFPLISTLKKALGLQSAS------CTAPAQPIEP-----ITA 385
                                                                                                                                                                                                                                                                                                                                                                                                                             386 APSGSGNGSGSSSSGGSS------GGSG 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          437 KPASTTKTTVKTTTTTAKPPQSVIDEENDINVRPEPKPEPQPEPEVEVPTENEVDGSE 496
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acetyl-D-glucosamine polymers of chitin. DEVELOPMENTAL STAGE: THE APPEARANCE OF THE MF1 ANTIGEN CORRESPOND WITH THE ONSET OF THE PARASITE'S ABILITY TO INFECT THE MOSQUITO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PTM: O-GLYCOSYLATED.
MISCELLANEOUS: KNOWN TO BIND CALCIUM.
SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;
Onchocercidae; Brugia.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        497 ICNSDQDYI-PDKKHCDKYWRCVNGEAMQFSCQHGTVFNVELNVCDW 542
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Blaiseau P.-L., Kunz C., Grison R., Bertheau Y., Brygoo Y.; "Cloning and expression of a chitinase gene from the hyperparasitic fungus Aphanocladium album.";
                                          SEQUENCE OF 35-67 FROM N.A., AND SEQUENCE OF 35-67.
MEDLINE=92136437; PubMed=1735126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    46058 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL, X64104, CAA45468.1, -.
EMBL, S81333.1, -.
PIR, JQ1975, JQ1975.
HSSP, P07254, ICTN.
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423
171
Gene 120:243-248(1992)
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35 4
171 1
423 AA;
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GKFPLISTLKKALGLQSASCTAPAQPIEP-ITAAPSGSGNGSGSSS--------398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           174 YEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYLNVDYVMNYWKDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      234 APAEKLIVGFPTYGHNFILSNPSNTGIGAPTSGAGPAGPYAKESGIWAYYEICTFLKNGA
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                                                                                                                                                                                                                                                                                                                                                 YQLTCYFTNWAQYRPGLGRFMPDNIDPCLCTHLIYAFAG-RQNNEITTIEWNDVT----
                                                                                                                                                                                                                                                                                                      Gaps
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Eukaryota; Fungi; Ascomycota; mitosporic Ascomycota; Aphanocladium.
NCBI_TaxID=12942;
                                                                                                                                                                    3 X 14 AA APPROXIMATE TANDEM REPEATS.
PROTON DONOR (BY SIMILARITY).
A78BE7BFB8E3709B CRC64;
                                                                                                                                                                                                                                                                                                      41;
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"Primary structure of a chitinase-encoding gene (chil) from the filamentous fungus Aphanocladium album: similarity to bacterial chitinases.";
                                                                                                                                                                                                                                                            DB 1; Length 504;
               PROSITE; PS01095; CHITINASE 18; 1.
Hydrolase; Glycosidase; Chitin degradation; Signal; Antigen;
Repeat; Glycoprotein; Calcium-binding.
                                                                                                                                                                                                                                                     31.4%; Score /00.2,
35.0%; Pred. No. 4.9e-50;
ive 73; Mismatches 200; Indels
                                                                                                       ENDOCHITINASE.
CATALYTIC.
SER/THR-RICH (LINKER)
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Last annotation update)
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                                                                                                                                                                                                                 55971 MW;
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(Rel. 35, Last ann
                                                                                                                                                                                                                                                                                                      Conservative
  SMART; SM00494; ChtBD2; 1
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01-FEB-1996 (Rel. 33,
01-NOV-1997 (Rel. 35,
Chitinase 1 precursor
                                                                                                                                                                                                                                                                                Similarity
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Matches 169;
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P32470;
                                                                                                                                                                        DOMAIN
ACT SITE
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    102 VIKFLRQYEFDGLDFDWEYPGSRGSPPQDKHLFTVLVQEMREAFEQEAKQINK-PRLMVT 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         161 AAVAAGISNIQSGYEIPQLSQYLDYIHVMTYDLHGSWEGYTGENSPLYKYPTDTGSNAYL 220
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           interPro; IPR00123; Chitinase_18/2.
InterPro; IPR001223; Glyco_hydro_18.
Pfam; PF00704; Glyco_hydro_18; 1.
ProDom; PD0000471; Glyco_hydro_18; 1.
PROSTER; PS01095; CHITINASE_18; 1.
Hydrolase; Glycosidase; Chitin degradation; Signal; Zymogen.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Pred. No. 9.8e-27;
61; Mismatches 150; Indels
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55DFB25B73443F31 CRC64;
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CHITINASE 1
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There are no restrictions on its ng as its content is in no way
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the Buropean Bioinformatics Institute. There are no restrictions on its
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or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. Biol. Chem. 268:18567-18572(1993).

-I- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of Nacetyl-Deglucosemine polymers of Chitin.

-I SIMILARITY: CONTAINS 2 FIBRONECTIN TYPE III-LIKE DOMAINS.

-I- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  revealed
                                                                                                                                                                                                                                                                                                                                                                                                                            Watanabe T., Suzuki K., Oyanagi W., Ohnishi K., Tanaka H.;
"Gene cloning of chitinase Al from Bacillus circulans WL-12 revealed
its evolutionary relationship to Serratia chitinase and to the type
III homology units of fibronectin.";
J. Biol. Chem. 265:15659-15665 (1990).
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Watanabe T., Kohori K., Miyashita K., Fujii T., Sakai H.,
Ordida M., Tanaka H.;
"Identification of glutamic acid 204 and aspartic acid 200 in
Chitinase Al of Bacillus circulans WL-12 as essential residues for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS01095; CHITINASE 18; 1.
;; Glycosidase; ChiTin degradation; Signal; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATALYTIC.
FIBRONECTIN TYPE-III (R-1).
FIBRONECTIN TYPE-III (R-2).
PROTON DONOR (PROBABLE).
D-N: DECREASE IN ACTIVITY.
D-SD: LOSS OF ACTIVITY.
H-D-G: LOSS OF ACTIVITY.
W, AC7C9B22E2997643 CRC64;
                                                                                                                                                                                                         Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
NCBI_TaxID=1397;
                                                                                      01-FEB-1991 (Rel./17, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
Chitinase Al precursor (EC 3.2.1.14).
699 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHITINASE A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nterPro; IPR003610; CBM 5 12.

nterPro; IPR001579; Chitinase_18/2.

nterPro; IPR003961; FN III.

nterPro; IPR001362; FnIII_repeat.

nterPro; IPR001223; Glyco_hydro_18.

fam; PF00041; fn3; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProDom; PD000471; Glyco hydro 18; 2.
SMART; SM00495; ChtBD3; 1.
SMART; SM00060; FN3; 2.
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                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=90368776; PubMed=2203782;
                                                            (Rel. 17, Created)
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STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ISSP; P02751; 1FNA
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CHI1 BACCI
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Score 463.5; DB 1; Length 699; Pred. No. 2.6e-26;

18.5%; 27.9%;

Best Local Similarity

Query Match

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17;
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                                                                       44 YKIVGYYPSWAAY----GRNYNVADIDPTKVTHINYAFADICWNGIHGNPDPSGPNPVTW 99
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Gaps
85,
76; Mismatches 172; Indels
                                     1 YQLTCYFTNWAQYRPGLGR-FMPDNIDPCLCTHLIYAFAG-----
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129; Conservative
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GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - nucleic search, using frame_plus_p2n model

June 29, 2003, 21:10:28 ; Search time 1499.62 Seconds (without alignments) 4913.891 Million cell updates/sec Run on:

Title: Perfect score:

US-10-004-219B-14 2506 1 YQLTCYFTWWAQYRPGLGRP......QQNCQAGLVFDTSCDCCNWA 455 Sequence:

BLOSUM62 Xgapop 10.0 , Xgapext Ygapop 10.0 , Ygapext Fgapop 6.0 , Fgapext Delop 6.0 , Delext Scoring table:

16154066 segs, 8097743376 residues Searched: 32308132 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Command line parameters:

Database :

EST: *

em_esthum:*
em_estin:*
em_estin:*
em_estov:*
em_estol:* em_estro: *
em_htc: *
gb_est1: *
gb_est2: *
gb_htc: *
gb_est3: * em_estba:*

gb_est4:* gb_est5:* em_estfun:

other:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Second National Content			d			SUMMARIES		
97.5 83.7 1533 11 AKOO6633 AKOO6633 MISS muscu 196. 79.0 1530 11 AKOO6630 AKOO6653 MISS muscu 196. 79.0 1530 11 AKOO6650 AKOO6650 MISS muscu 197. 80.1 1534 11 AKOO6650 AKOO6650 MISS muscu 197. 5 51.0 1534 11 AKOO6650 AKOO6650 MISS muscu 197. 5 51.0 1534 11 AKOO6650 BEGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	SE S	ပ	Query Match	Lengt	DB	ΩI	escri	
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ALIGNMENTS  ALIGNMENTS  ALIGNMENTS  ALIGNMENTS  AKOO8633  The maculus adult male stomach cDNA, RIKEN full-length enriched acoust, clone:2200003E03:chitinase, acidic, full insert sequence. AKOO8633  AKOO8633  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOO8631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631  AKOOR631	4	_	45.	75	12	36729	BG86729	
ALIGNMENTS  AKOO8633  Wus musculus adult male stomach cDNA, RIKEN full-length enriched library, clone:2200003E03:chitinase, acidic, full insert sequence. AKOO8633 AKOO8633 AKOO8634  HTC; CAP trapper. HTC; CAP trapper. Mus musculus (strain:CS7BL/6J) adult male stomach cDNA to mRNA,	45	1150	45.	83	12	36557	BG86557	
AKOO8633 1533 bp mRNA linear HTC 19-JAN-200 Mus musculus adult male stomach cDNA, RIKEN full-length enriched library, clone:2200003E03:chitinase, acidic, full insert sequence. AKOO8633 AKOO8633 HTC; CAP trapper. HTC; CAP trapper. Mus musculus (strain:CS7BL/6J) adult male stomach CDNA to mRNA, Mus musculus (strain:CS7BL/6J) adult male stomach CDNA to mRNA,								
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Clone 11b:RIKEN full-length enriched mouse CDNA library clone:2200003E03.

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Adachi, J., Alzawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Haraoka, T., Hori, F., Hume, D., Imotani, K., Ishii, Y., Itch, M., Izawa, M., Kasukawa, T., Kato, H., Kawai, J., Kojima, Y., Kouno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Okazaki, A., Nishi, K., Nomura, K., Saito, H., Saito, R., Sakai, C., Saan, K., Sano, H., Saakai, D., Schriml, L., Shibata, K., Shibata, Y., Shinagawa, A., Shiraki, T., Tanaka, T., Tagami, M., Tagawa, A., Takahashi, F., Tanaka, T., Tejima, Y., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshido, M., Muramatsu, M. and
                                                                                                                                                                                                                                                                                                                   Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamawoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, M., Johara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. sequencing pipeline with 384 multicapillary sequencer sequencer analysis (RISA) system-384-format Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                                                                         Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
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  nign-efficiency full-length cDNA cloning Meth. Enzymol. 303, 19-44 (1999)
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SGYTGENSDLYKYPTETGSNAYLNVDYWNYWKNNGAPAEKLIVGFPBYGHTFILRNP
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Please visit our web site (http://genome.gsc.riken.go.jp/) for
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                                                                                                                                                                                                                    AlaProPheThrAlaMetValSerThrProGluAsnArgGlnThrPheIleThrSerVal 102
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                                                                                                                                                                                                                                                                                AsnGluIleThrIleGluTrpAsnAspValThrLeuTyrGlnAlaPheAsnGlyLeu
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                    Indels:
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                                       Gaps:
81.42%
82.98%
  Best Local Similarity:
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            Carninoi, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Ishii, Y., Itoh, M., Izawa, M., Kasukawa, T., Kato, H., Kato, H., Kouda, M., Koya, S., Kurihara, C., Musazaki, R., Nomo, H., Koya, S., Numazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, J., Schrim, L., Shibata, Y., Sakai, K., Sano, H., Sasto, D., Schrim, L., Shibata, Y., Shibata, Y., Shinagawa, A., Shiraki, T., Tagami, M., Tagawa, A., Takahashi, F., Tanaka, T., Tejima, Y., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshida, K., Yoshino, M., Muramatsu, M., and
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA library was prepared and sequenced in Mouse Genome Broyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. First strand cDNA was primed with a primer [5, GAGAGAGAGATCCAAGAGCTCTTTTTTTTTTTTTTVN 3'], cDNA was prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by cap-trapper. CDNA went through one round of normalization to Rot = 5.0 and subtraction to Rot = 20.0. Second strand cDNA was prepared with the primer adapter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="BAB25878.1"
/bcxef="di:12843149"
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/db.xref="mdD.1493.052"
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REAFEGEAIESNREHAVTAVAGGTSNIQAGYEIPELSKYLDFIHVMTYDLAGSWEG
YTGENSPLYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVGFPEYGHAFILRNPSD
                                                                                                                                                                                                                                                                      Submitted (10-UL-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Gemomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Sushiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-resegnscriken.go.jp, URL:http://genome.gsc.riken.go.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)
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|clone_lib="RIKEN full-length enriched mouse cDNA library"
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data source:MGD, source key:MGI:1932052, evidence:ISS
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/db_xref="MGD:NGI:1894239"

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/clone="2210020N23"
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Quackenbush, J., Schriml, L.M., Staubli, F., Suzuki, R., Temita, M.,
Wagner, L., Washio, T., Sakai, K., Okido, T., Furuno, M., Aono, H.,
Baldarelli, R., Barsh, G., Blake, J., Boffelli, D., Bojunga, N.,
Carninci, P., de Bonaldo, M.F., Brownstein, M.J., Bult, C.,
Fletcher, C., Fujita, M., Gariboldi, M., Gustincich, S., Hill, D.,
Hofmann, M., Hume, D.A., Kamiya, M., Lee, N.H., Lyons, P.,
Marchionni, L., Mashima, J., Mazzarelli, J., Mombaerts, P., Nordone, P.,
Ring, B., Ringwald, M., Rodriguez, I., Sakamoto, N., Sasaki, H.,
Sato, K., Schonbach, C., Seya, T., Shibata, Y., Storch, K.F., Suzuki, H.,
Wynshaw-Boris, A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S.
and Hayashizaki, Y.
Functional annotation of a full-length mouse cDNA collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Adachi, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hara, A., Hayatsu, N., Hill, D., Hiramcho, K., Haracka, T., Hori, F., Hume, D., Imotani, K., Ishii, Y., Itoh, M., Izawa, M., Kosukawa, T., Kato, H., Kawai, J., Kojima, Y., Konno, H., Kouda, M., Koyas, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, J., Saito, H., Saito, R., Sahai, K., Sano, H., Saakai, C., Sakai, K., Sano, H., Saakai, D., Schriml, L., Shibata, K., Shibata, Y., Shinagawa, A., Takabashi, F., Tanaka, T., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshida, K., Yoshino, M., Muramatsu, M. and
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/dev_gtage="adult"
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Submitted (10-JUL-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Gemonic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.go.jp, URL.http://genome-gsc.riken.go.jp/, Tel:81-45-503-9222,
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                                   LeuAspAspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeuIleSerThrLeu 362
                                                                                                                                                               363 LyslysAlaLeuGlyLeuGlnSerAlaSerCysThrAlaProAlaGlnProIleGluPro 382
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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Mus musculus (strain:C57BL/6J) adult male stomach cDNA to mRNA,
clone lib:RIKEN full-length enriched mouse cDNA library
clone:2200008L17.
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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AUTHORS
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AK008650 LOCUS

ACCESSION VERSION KEYWORDS SOURCE AUTHORS

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REFERENCE

JOURNAL

Fukunishi, Y., Konno, H., Adachi, J., Fukuda, S.

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S Adachi, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukuda, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Hume, D., Imotani, K., Ishi, Y., Itoh, M., Izawa, M., Kasukawa, T., Kato, H., Kawai, J., Kojima, Y., Konio, H., Kouda, M., Kosika, K., Nomura, K., Nimazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, J., Saito, H., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Schrimi, L., Shibata, Y., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., Tanaka, T., Toya, T., Yamamura, T., Yamanaka, I., Yasunishi, A., Yoshino, M., Muramatsu, M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
Submitted (10-JUJ-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Gemomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (B-mail:genome-res@gsc.riken.go.jp, URL:http://genome.gsc.riken.go.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)
Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue type="pancreas"
/clone lib="RIKEN full-length enriched mouse cDNA library"
/dev stage="10 day old"
1. .1530
Functional annotation of a full-length mouse cDNA collection
Nature 409 (6821), 685-690 (2001)
21085660
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|db_xref="MGD:MGI:1892862"
|db_xref="taxon:10090"
|clone="1810021D23"
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/strain="C57BL/6J"
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/note="chitinase, acidic
data source:MGD, source key:MGI:1932052, evidence:18S"
(db xref="MGD:MGI:1932052"
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GCTGCTGTAGCTGGGGATTTCCAACATCCAGGCTGGCTATGAGATCCCTGAACTTTCT
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323 IleLysAlaGlnTrpLeu-LysHisAsnLysPheGlyGlyAlaMetValTrpAlaIleAs 342
stomachs, 62 yo male and 70 yo female. Library is oligo-dT primed and directionally cloned (EcoRV site i destroyed upon cloning). Average insert size 1.4 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by Gruber (Invitrogen). Research Genetics tracking code 02. Note: this is a NIH MGC Library."
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forw-sportf; Site 1: Not1; Site 2: BcoRV (destroyed); RNA
source anonymus pool of 3 colons, age 26 yo male, 49 yo
female, 71 yo male colon; 46 yo male kidney, and pool of 2
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

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Email: cgapbe-r@mail.nih.gov

Tissue Procurement: Life Technologies, Inc.

CONA Library Preparation: Life Technologies, Inc.

CONA Library Preparation: Life Technologies, Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

CLone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://ange.llnl.gov

Plate: LLAM11463 row: c column: 23

High quality sequence stop: 780.
   GlnGluValProTyrAlaTyrGlnGlyAsnValTrpValGlyTyrAspAsnIleLysSer
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                                                                                                                                                                                                                                                                                                   GluProlleThrAlaAlaProSerGlySerGlyAsnGlySerGlySerSerSerGly
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603045190P1 NIH_MGC_116 H
mRNA sequence.
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316 AGCCCCTCTACAAATACCCGACTGACACCGCAGCAACGCCTACCTCAATGTGGATTAT 375
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                                                                                                                                                                                                             | PheGluGluGluAlaLysGlnIleAsnLysProArgLeuWetValThrAlaAlaValAla 164
                                                                                                                                                                                                                                                ValMetAsnTyrTrpLysAspAsnGlyAlaProAlaGluLysLeuIleValGlyPhePro 244
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspPheThrGlyThrPheCysAsnGlnGlyLysPheProLeulleSerThr-Leu-LysL 364
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                                                                        105 PheLeuArgGlnTyrGluPheAspGlyLeuAspPheAspTrpGluTyrProGlySerArg 124
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     85 PheThrAlaMetValSerThrProGluAsnArgGlnThrPheIleThrSerValIleLys 104
                                                                                                                                      GlySerProProGlnAspLysHisLeuPheThrValLeuValGlnGluMetArgGluAla
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pcMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA
source anonymous pool of 3 colons, age 26 yo male, 49 yo
female, 71 yo male colon; 46 yo male kidney, and pool of 2
stomachs, 62 yo male and 70 yo female. Library is
oligo-dT primed and directionally cloned (EcoRV site is
cligo-dT primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.4 kb,
insert size range 1.3 kb. Library is normalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
023. Note: this is a NIH MGC Library."
                                                                                                                                                                                               AGENCOURT 6623879 NIH_MGC_116 homo sapiens cDNA clone IMAGE:5759117 5', mRNA sequence.
BM923480
BM923480.1 GI:19373859
EST.
                                                                        GGGAACAGCCAGCTGAAAACTCTCCTGGCCATTGGAGGCTGGAACTTCGGGACTGG-CCC 120
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1105)
NHT-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
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Tissue Procurement: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can bettp://image.llnl.gov
http://image.llnl.gov
a column: 06
High quality sequence stop: 668.
Location/Qualifiers
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Best Local Similarity:
Query Match:
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Pukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Bukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Musnae; Butherria; Rodentia; Sciurognathi; Muridae; Musnae; E. (basse 1 to 838)

NIH-MGC http://mgc.nci.nih.gov/.

Lu Unpublished (1999)

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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Consortium (LLNL)

DNA Sequencing by: The I.M.A.G.E. Consortium (LLNL)

Clone distribution: MGC Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Llocate. LLAMI0816 row: g column: 09

High quality sequence stop: 824.
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/note="Organ: salivary gland; Vector: pCMV-SPORT6; Site_1:
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| GCTGCTGTAGCTGGGGATTTCCAACATCCAGGCTGGCTATGAGATCCCTGAACTTTCT
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                                                                                          ccaeecrcacerececccrccrcageacaagearcrcrcacrcrcacrerererea
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/organism="Mus musculus"
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            B92 bp mRNA linear BST 02-MAY-2002 AGENCOURT 7578138 NCI CGAP Stl Mus musculus cDNA clone IMAGE:6051580 5', mRNA sequence.
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/clone=liba"NtG GGAP Stl"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            215
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Musaryota; Metazoa; Rodentia; Sciurognathi; Muridae; Musinae; Musinae; Mus-
1 (bases 1 to 892)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

http://mage.llnl.gov
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Percent Similarity: 87.21$
Best Local Similarity: 81.48$
Query Match: 52.97$
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Not1; Site_2: Sal1; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.3 kb. Constructed by Life Technologies. Note: this a NCI_CGAP Library."
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/note="Organ: pooled colon, kidney, stomach; Vector: pow-SPORT6; Site 1: Not1; Site 2: EcoRV (destroyed); RNA source anonymous pool of 3 colons, age 26 yo male, 49 yo female, 71 yo male colon; 46 yo male kidney, and pool of 2 stomachs, 62 yo male and 70 yo female. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.4 kb, insert size range 1.3 kb. Library is normalized and enriched for full-length clones and was constructed by C Gruber (Invitrogen). Research Genetics tracking code 023. Note: this is a NIH MGC Library."
BI517797 1008 bp mRNA linear EST 29-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov
   Tissue Procurement: Life Technologies, Inc.
   CDNA Library Preparation: Life Technologies, Inc.
   CDNA Library Preparation: Life Technologies, Inc.
   CDNA Library Prayed by: The I.M.A.G.E. Consortium (LLNL)
   DNA Sequencing by: Incyte Genomics, Inc.
   Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
   http://image.llnl.gov
   Plate: LLAM11455 row: a column: 14
   High quality sequence start: 3
   High quality sequence stop: 788.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection Unpublished (1999)
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/clone="IMAGE:5182357"
/clone_lib="NIH_MGC_116"
/lab_host="DH10B"
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B I (bases 1 to 872)

S NIH-WGC http://mgc.nci.nih.gov/.

I Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: Gapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LIML)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC.Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov
Plate: LLAM13305 row: g column: 11

High quality sequence stop: 724.
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AGENCOURT 7578230 NCI CGAP_St1 Mus musculus cDNA clone
IMAGE:6051490 5', mRNA sequence.
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                                                                                                                                                    AspileLysAlaGlnTrpLeuLysHisAsnLysPheGlyGlyAlaMetValTrpAlaIle
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Musinae; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musina.

E 1 (Bases 1 to 764)

I (Dabas 1 to 764)

I Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Joffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM10816 row: e column: 06

High quality sequence stop: 760.
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60218819F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4920173 5',
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                                                                          TyrAspLeuHisGlySerTrpGluGlyTyrThrGlyGluAsnSerProLeuTyrLysTyr 210
                                                                                                            362 TATGACCTCCATGGCTCCTGGGAGGGCTACACTGGGGAGAATAGTCCTCTTTACAAATAC 421
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| Organism="Mus musculus" |
| Atrain="FVBN 10090" |
| Atrain="FVBN 10090" |
| Ab xref="taxon:10090" |
| Alone="lib="WNC CAAP SC2" |
| Ab host="DH10B (11 phage-resistant)" |
| Anote="Organ: salivary gland; Vector: pCMV-SPORT6; Site 1: |
| Not1; Site 2: Sali; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.3 kb. Constructed by Life Technologies Note: Libs is a NCI CGAP Library." |
| Technologies Note: Libs is a NCI CGAP Library." |
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E 1 (bases 1 to 809)

I Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Joffrey E. Green, M.D.

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CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LiNL at:

http://mage.lln.gov
Plate: LLAM10813 row: h column: 14

High quality sequence stop: 804.
809 bp mRNA linear EST 29-MAY-2001
602785352F1 NCI_CGAP_SG2 Mus musculus cDNA clone IMAGE:4911421 5',
BG866417
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/db_xref="taxon:10090"
/clone="IMAGE:4924897"
/clone_lib="NCI CGAP_SG2"
/lab_host="DH10B (T1 phage-resistant)"
/note="Organ: salivary gland; Vector: pCMV-SPORT6; Site 1:
/note="Organ: salivary gland; Vector: pCMV-SPORT6; Site 1:
/note: Site 2: Sali; Cloned unidirectionally. Primer: Oligo
AT. Average insert size 1:3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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Uppublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: Cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
Clone distribution: MGC clone distribution information can be http://image.llnl.gov
Plate: LiAM10848 row: j column: 02
High quality sequence stop: 760.
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
                                                                                                                            21 MetProAspAsnIleAspProCysLeuCysThrHisLeuIleTyrAlaPheAlaGlyArg 40
                        TyrGlnLeuThrCysTyrPheThrAsnTrpAlaGlnTyrArgProGlyLeuGlyArgPhe
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Mus. CE 1 (bases 1 to 83.7)

RS NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

AD Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: Gapba-r@mail.nih.gov

Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM10819 row: k column: 17

High quality sequence stop: 836.
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/db_xref="taxon:10090"
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/clone=Inb="Nor CGAP SG2"
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                                              541 CTGGATTTCATCCATGTCATGACATATGACCTCCATGGCTCCTGGGAGGGCTACACTGGG
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Pred. No.:
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545

8

605

02-MAY-2002

Query Match: DB:

BASE COUNT ORIGIN

FEATURES

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cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LIML)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LIML at:
http://image.llnl.gov
Plate: LiAMl3306 row: i column: 02
High quality sequence stop: 654.
Location/Qualifiers
1. 339
Location/Qualifiers
1. 339
//Qualifiers
1. 339
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//db xref="texxon:10090"
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//note="Organ: stomach; Vector: pCMV-SPORT6; Site 1: SalI;
//note="Organ: stomach; Vector: pCMV-SPORT6; Site 1: SalI;
//site 2: NotI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.77 kb. Library constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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799 TIGITIGGALTICCCCAAATATGGAACACACCCTTCATCCTGAAAAAACCCTTCTAATAATG 858
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                                                                                                                                                         ly-ileGlyAlaPro---ThrSerGlyAlaGlyPro---AlaGlyPro---TyrAlaLys 275
                                                                                                                                                                                     GAAATTGGGGGCCCCCTTACCTCTGGAGGATGGCCCCCTGCTGGGCCCCAATACCCAAAA 918
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